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BY

GEORGE H. SIMMONS, M.D.

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Original Articles

THE TREATMENT OF BURNS AND SKIN GRAFTING.

HALDOR SNEVE, M.D.
ST. PAUL, MINN.

There is perhaps no more frightful accident than a severe burn of large area. The intense suffering of the patient, and, in case of recovery, the hideous deformity left, render these accidents peculiarly distressing. In spite of all our pastes and powders, salves and solutions, the mortaltiy in burns involving more than one-third of the body surface is nearly 100 per cent., and in many cases the agony of redressing these wounds is so great as to lead physician and patient alike to pray for a merciful termination by death. Dupuytren's classification of burns into six degrees was cumbersome, and modern writers have adopted Boyer's and speak only of three degrees. In the following description, hyperemia of the skin will be considered a burn of the first degree, destruction of the epidermis shown by vesication, second degree, destruction of the derma, third degree, and of the deeper tissues, fourth degree.

Case 1.—In August, 1902, M. O., aged 21, a railroad fireman, came to St. Joseph's Hospital in St. Paul, severely scalded by steam over practically the whole trunk, with the exception of a small part of the lower abdomen (Figs. 1 and 2).

Treatment and Result.—Seventeen days after the accident, under the most approved modern methods of treatment with carbolized vaselin, zinc oxid salve, picric acid wet dressings, various dusting powders, together with supporting treatment of strychnia, iron, etc., and normal salt solution as drink and by enema, the patient was reduced to a moaning, babbling skeleton with swollen ankle and knee joints, coated, cracked tongue and lips, septic temperature, exhausting sweats, rapid, feeble pulse, with albuminuria and large amounts of colored matters in the urine. Morphin was administered as frequently as we dared, but it only benumbed the faculties without relieving the consciousness of the ever-present pain. The shrieks of the patient when we removed the dressings, after thoroughly soaking them with normal saline or boracic acid solution, added to the horror of the situation.

Observation of a considerable number of burns had shown me that the burns of the face when left exposed to the air speedily crusted over and healed rapidly underneath Nature's own dressing, while burns of no greater depth or area on the trunk or limbs treated simultaneously with occlusive dressings, dragged along interminably.

The moisture from the perspiration and the exudation from the wound being retained, every dressing speedily became a wet poultice, and it was a logical step to assume that the toxemia resulting in emaciation, fever, and nephritis was due mainly to absorption from the wounds. Death being apparently a matter of a short time to the patient, we removed the occlusive dressings and *exposed his wounds to the air*. In order to aid Nature to form scabs over the freely exuding surfaces various dusting powders were applied; the stearate of zinc finally being chosen as least liable to cake or to irritate. The patient sat up in an invalid chair propped up and tied for ten days and nights, a nurse carefully drying up the exuding spots with gauze sponges and then dusting on stearate of zinc; when a collection of seropus formed under a crust, the parchment-like scab was removed, the surface carefully cleansed with sponges dipped in normal saline solution and powder reapplied until we had thin, dry, brown scabs firmly adherent to the granulating surfaces. In October the patient was well, with flexible scars freely movable and only thick under the right axilla, where the burns extended down into the subcutaneous tissues. This patient was in my office in March, 1905, and in most excellent condition; none of the scars had ulcerated, as is so frequently the case when keloid masses result.

Case 2.—In December, 1902, F. W., aged 29, while scraping hogs, fell into a vat of scalding water at Swift's plant; he quickly scrambled up on the side of the vat, but his fellow workmen were so horrified as to be unable to assist him, so that he fell in again; this time, however, he was pulled out and brought to St. Joseph's Hospital, where I saw him.

Treatment.—He was given a bath in normal saline solution, put into a room which we kept heated to 90 F. and higher, and given strychnia and enemata of normal saline for the shock. While in the ambulance he had been given a hypodermic of morphin for a burning sensation, which began about forty minutes after the scald; in the night he received a quarter-grain dose for his restlessness more than for pain. The pain became severe on the evening of the second day after symptoms of shock had passed away, and a quarter grain of morphin was administered; this dose was repeated on the evenings of the succeeding six days, although severe pain only continued about twelve hours (Figs. 3 and 4).

In order to stimulate the areas of skin only scalded to the first degree and less, to increase of function, alcohol rubs were frequently administered. The blisters were carefully opened and contents expressed as rapidly as formed, but ultimately nearly all lost the epidermis. Stearate of zinc was assiduously dusted on exuding surfaces until adherent dry crusts were formed and the patient sat up in bed most of the time so that as little of the burned surfaces should come in contact with the clothes as possible.

Result.—The urine was heavily charged with coloring matters for a time, but albuminuria did not occur. On the fifth day he developed a cough and labored respiration, which we interpreted as an infarct of the lung; these symptoms soon passed away. The patient left the hospital Jan. 15, 1903, the burned areas healed with smooth, flexible scars, which have since given no trouble of any kind.

Case 3.—On January 23, M. B. L., a middle aged merchant, was severely scalded by steam on both hands and on face, and sustained scalp and facial wounds in a railway wreck. In attempting to grope his way out of the car in which he was imprisoned he shoved nearly all the skin of his wrists and hands forward to the tips of his fingers where it lay folded and wrinkled up much like a pair of gloves about to be donned. He arrived at St. Joseph's Hospital late in the evening.

Treatment.—The oily dressings on the hands were removed and a wet picric acid dressing with oiled silk covering substituted, and ¼ grain of morphin administered. The patient slept fairly well during the night, and the next morning the hands were immersed in a bowl of picric acid solution before removal of the dressings; the removal of the wet gauze from the raw surfaces caused such exquisite pain that the patient said that he could not endure a repetition of the process without chloroform. The hands were washed in normal saline solution, carefully dried and exposed to the air, stearate of zinc dusted on, and the arms supported in such a way that the raw surfaces were kept from touching anything. Morphin was given that evening but was not required thereafter. All blisters that formed on face and hands were carefully clipped off and the surface powdered.

Result.—In four days the patient was up and about and in three weeks he left the hospital with the burned surfaces all crusted over and healing far advanced. He was encouraged to move hands and fingers freely and in this way stiffness of the joints was avoided. Six weeks after the injury, the hands were healed with the same smooth flexible scars secured in Case 2.

Case 4.—On the morning of July 26, 1903, Mr. E. H. aged 24, fireman, was frightfully scalded in a railroad wreck. Practically the whole body was scalded to some extent; the entire back was scalded to the second degree, as was most of the posterior surface of the right lower limb; a space the size of a hand on the left hip, and one half that size on the thigh, were burns of the third degree; an area equal to the palm of the hand over the middle of the left leg exposed the bone, and the dorsum of the foot, especially at the bases of the toes, was charred to the hard tissues below (Fig. 5.)

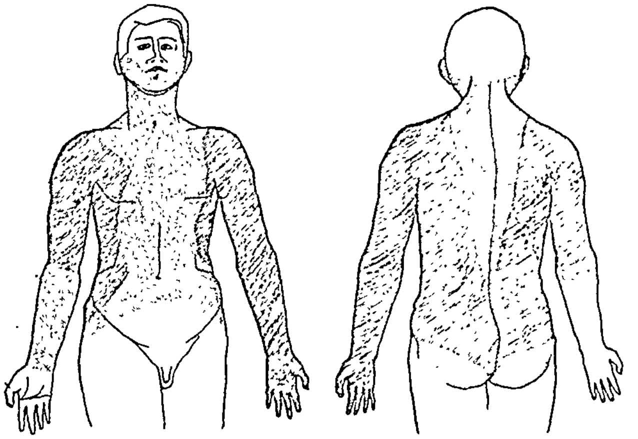


Figure 1. Figure 2.

Figures 1 and 2.—The light stippling indicates a burn of the first degree, and the lines a burn of the second degree; there is, besides, a large area around the right axilla of the third degree.

Treatment.—Immediately following the accident there was considerable shock. Strychnia and morphia were administered hypodermically, and as soon as the patient reached St. Joseph's Hospital large quantities of normal saline solution were given. Considerable pain was experienced beginning about three hours after the accident continuing up to midnight. Morphin was required for the pain the next day, but none was required thereafter although there was some suffering from the inflammatory reaction for a time. The anterior surface of the body being comparatively free from burns the patient slept on his abdomen all of the time, the left leg suspended by slings from cradles which kept the bed clothes from touching the body at any point burned; warm water bottles to the feet and inside the tent thus formed, together with a small heater in the room kept the temperature up.

Result.—The patient had no albuminuria, and after the first few days no pain, and was discharged from the hospital recovered seven weeks from the date of admission. Soft, smooth flexible scars except a small hard scar at base of left middle toe.

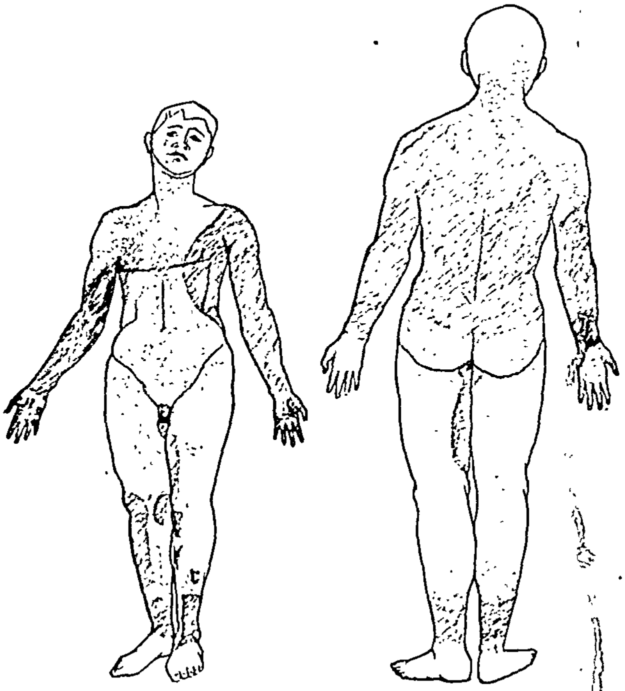
Case 5.—A. K., a middle aged man employed at Swift's packing plant was scalded by hot steam to the second degree over dorsum of right arm and back.

Treatment.—The patient came to my office and was given a supply of stearate of zinc and directed to go home, to expose the right arm and half of his body to the air and to sit by the kitchen stove. Dr. F. J. Savage visited him once and clipped away all the blistered epidermis and found the patient carrying out instructions.

Result.—In three weeks the patient returned to work with the burned area dry and crusted over and the greater part healed. The final recovery was delayed one week longer, but the result was apparently perfect.

Dr. Savage has since treated two minor cases of first and second degree burns according to this method neither of which required analgesics and both recovered within two weeks.

The first three of my cases demonstrated the value of this method of treatment to Dr. Ancker, Superintendent of the St. Paul City and County Hospital, and he introduced the treatment there.



Firgure 3. Figure 4.

Figures 3 and 4.—Showing the extent and degree of the scald. The light stippling indicates burns of the first degree, and the lines those of the second degree.

The first three patients submitted to this treatment at the City and County Hospital were all burned by a gasoline explosion. One was an old man 81 years of age, bedridden, and suffering with pyelocystitis from vesical calculus, who was burned over head, face, chest and arms. The soft parts of the right hand and wrist were charred and the only treatment would have been amputation had his general condition permitted. In spite of his feebleness he lived a month with all the burns healed except the right forearm and hand. His son, burned over legs, forearms and face, recovered promptly and left the hospital in three weeks. The housekeeper, Miss H., 33 years old, was burned over the whole body, mainly to the second and third degrees and lived six days, having never recovered from the shock. She was conscious most of the time and did not suffer pain.

Case 6.—J. K., aged 28, was burned over the whole por terior part of the body from her dress catching fire (Fig. 6). Considerable areas of the entire thickness of the skin were destroyed around both axillæ, on the buttocks, and on the feet.

Treatment.—The patient slept on her abdomen for three months and, indeed, much of the time since then. The granulating areas were kept clean: sponge and tub baths of normal saline solution being used at intervals to cleanse the whole body and to soak off some of the scabs; stearate of zinc and powdered aseptic vegetable charcoal were used to assist Nature in forming dry closely adherent crusts. No skin grafting was practiced, because we could not secure the skin, but the sores all finally healed, and even the deep scars over the charred spots were freely movable, flexible, and smooth. Slight albuminuria and chromaturia appeared at times when the little lakes of seropus were not cleaned out promptly. Some trouble was experienced in keeping the temperature of the room high enough during the first month. As soon as possible the patient was made to walk about daily. During the healing process some pain was complained of, but morphin was only required a few times the first three days.

In August, 1903, a still more frightful burn was admitted.

Case 7.—Mrs. E., aged 39, sustained a charring of the right hand and forearm and a burn of the second degree of the arms and face and a burn of the third degree involving the whole anterior surface of the body, from the neck to the knees, from her dress catching on fire (Fig. 7). Shock prevented the initial suffering, and after it passed off she only had severe pain one day requiring morphin, and later the pain due to the swelling around the burned areas from the inflammatory reaction, so that analgesics or narcotics were only sparingly used. The patient suffered considerably from nervousness and weakness during her stay at the hospital, but, all in all, hardly suffered any pain during the entire period.

Treatment and Result.—Exposure of the patient to high temperature in a room, with local heat to the head and feet, combined with the free use of normal saline solution as a cool drink and in enema removed the initial shock in three days. All blisters were cut away as formed and zinc stearate was dusted on the exuding surfaces. The areas where the whole derma was destroyed were simply exposed to the air and the discharges removed with gauze sponges and full baths in normal saline solution. Burns to the fourth degree were treated to peroxid solution at intervals. The baths were greatly enjoyed by the patient and seemed to refresh her greatly; after the bath the granulating surfaces were carefully dried with gauze. The exuding serum formed a collodion-like membrane over the granulations and epidermization proceeded briskly. The granulations were small, firm, red, and healthy-looking. At the end of three months all the burns were healed except an area over the abdomen about ten inches square and small spots on both breasts. The right forearm and hand were mummified and Nature began to indicate where she would amputate just below the elbow. For two months we had made ineffectual efforts to secure skin for grafting. The patient was emaciated and weak and died from exhaustion and nephritis four and one-half months after admission.

Remarks.—We feel confident that this patient could have been saved had skin grafting been practiced, as her general condition was fair and the urine free from albumin and casts up to within three weeks of her death, with the exception of the first month, when albuminuria was noted ten times.

Two other adults died from burns during this period. A watchman was burned to the third and fourth degrees all over head and face, destroying the eyes, and to the second degree on both arms and hands, in a gasoline explosion. He became delirious on the third day and remained in stupor until he died, presumably of meningitis, twelve days after the accident. The last patient was a man who fell into the vat at Swift's plant in which the patient in Case 2 was scalded. This man was literally cooked and died of shock within six hours. Of the fourteen deaths, nine were of children; all of whom were extensively burned. Five died of shock within the first twenty-four hours, leaving four that died in spite of the method of treatment. The baby shown in Fig. 8 developed a gastroenteritis on the nineteenth day, while everything seemed to be progressing as well as possible, and died of exhaustion and toxemia within three days. The facility with which this four-year-old child adopted and maintained the position shown in the illustration was remarkable. This accident occurred in the heated term and we believe that the diarrhea was a foreign invasion unconnected with the burn. Considerable pain was mani-

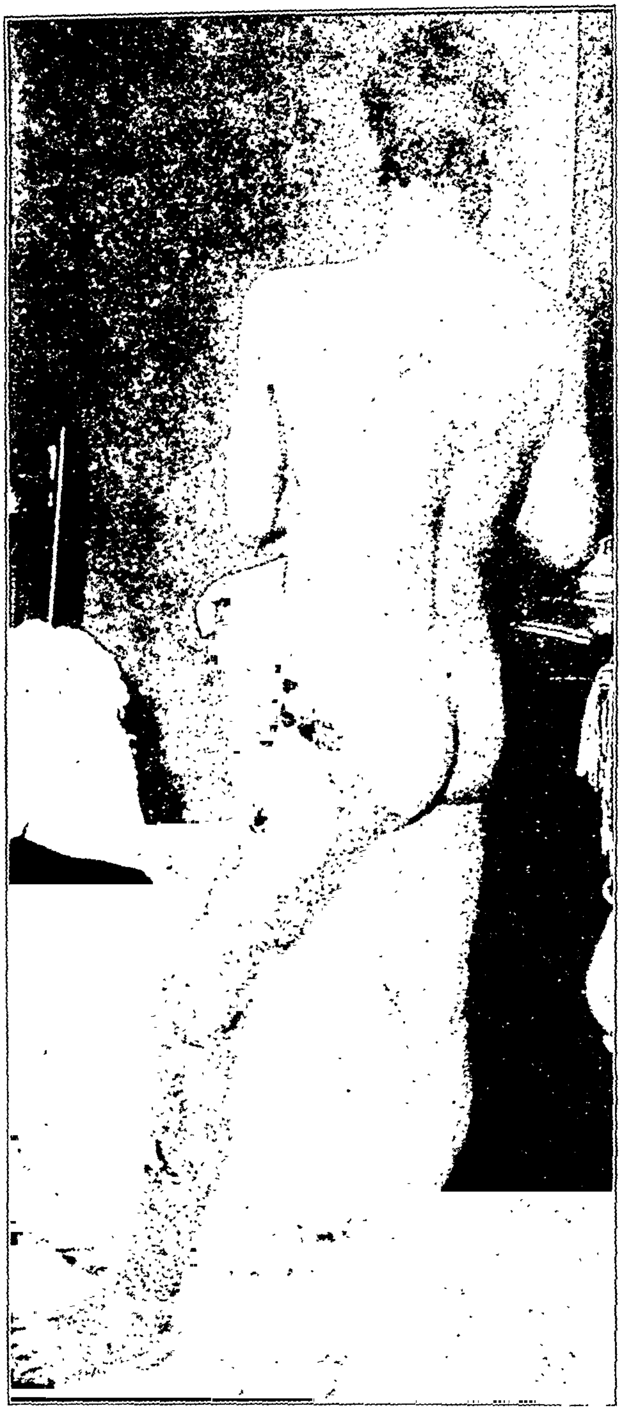


Figure 5.—This photograph was taken on the twenty-fourth day after the accident. Most of the burns are healed.

fested from the second to the sixth days, but the toxemia from absorption after the first week was very slight judging from pulse, temperature and urine.

On the fourth of July a boy was burned over one-half of the body and head from a powder explosion, mostly to the second degree. The eyes were destroyed, the face greatly swollen, and toxemia was constant until his death on the nineteenth day; the pulse ranged from 100 to an uncountable rate, the temperature attained 107.6 in the axilla and the stools and urine were frequently involuntarily voided. Catheterization revealed granular casts and albumin in the scanty urine. Delirium and stupor supervened near the last. This patient undoubtedly died of meningitis from direct extension through the orbit.

The two remaining children who died succumbed on the fifth and ninth days respectively, one from the combined effects of shock and toxemia, the other from symptoms of pneumonia.

Case 8.—Mrs. A. was burned by gasoline explosion over one-third of body, involving the greater part of upper half anteriorly and on right side. The burns of the second degree healed in four weeks, while the granulating areas of the third degree were crusted over.

Treatment and Result.—This patient required morphin the first three days, but after that suffered very little beyond discomfort. The initial shock was treated by high temperature of the room, local heat to head and feet, and normal saline solution in baths, enemata, and as a drink. The after treatment was the same as in preceding cases. The patient refused skin grafting and left the hospital in good condition before the granulating surfaces were entirely healed.

Case 9.—B. S., aged 18, suffered from gasoline burns involving right upper quarter of body. The whole right hand and arm swelled up to double the normal size on the second day after the accident (Fig. 9).

Treatment and Result.—Under the same treatment as in the preceding case all the burned surfaces had healed at the end of two months, with the exception of a large surface on the anterior aspect of the right shoulder extending toward the chin and neck. A peninsula of new skin extended down through the center of the area almost dividing it into two parts. Unsuccessful efforts were made to secure permission to graft skin but the patient's friends were dissatisfied with the progress of the case and she was taken home where a course of occlusive dressing treatment with all sorts of salves was practiced from August 22, 1904 until the last of March, 1905, then she came into the hands of Dr. Brimhall, who promptly sent her to St. Joseph's Hospital where, with the assistance of Dr. O'Brien, Thiersch grafts were applied, with the most happy results. A strange feature of the case is that apparently little or no progress in healing had been made during the seven months that she was at home. During this period she suffered considerable pain.

SUMMARY OF CASES TREATED IN HOSPITAL.

Sixty-three patients were treated at the City and County Hospital from Jan. 1, 1903, to Jan. 1, 1905, according to the open air method, with fourteen deaths, nine of which occurred in children. Two patients died in the ambulance or immediately on arrival. Not all of these sixty-three patients were extensively burned, but twenty-five burns involved one-fourth and more of the body surface and the rest were severe enough for hospital care. The fact that pain only lasted a short time, that nothing further than keeping the wounds clean was required, that stiffness in nearby joints from disease did not develop, and that the time required for healing was shortened about two-thirds as compared with our usual method, make the results noteworthy. Up to this time out of more than 85 cases the only deaths are those mentioned.

DEATHS.—CITY AND COUNTY HOSPITAL.

Shock—Seven within twenty-four hours; two within six days. Meningitis—One on twelfth day; one on nineteenth day. Pneumonia— One on ninth day. Gastroenteritis—One on twenty-first day. Exhaustion—One after four and a half months. Total—14.

Drs. H. J. O'Brien and J. B. Brimhall have treated five cases of extensive burns by this open method, with the same freedom from pain and with the same favorable outcome. A number of other patients treated by various other physicians could be cited but these will suffice. Over seventy-five patients had been treated up to Jan. 1, 1905.

SKIN GRAFTING.

In extensive granulating areas where skin grafting was required we were confronted by the problem of an occlusive dressing, something we were anxious to avoid; we therefore determined to try the open air method in this procedure also and the first grafting made on an injured foot was entirely successful. Thiersch grafts were placed on the denuded surface, which had been prepared in the usual way and then simply exposed to the air. Small blisters of tissue-paper thickness filled with a seropurulent exudate appeared on some of the grafts; these were opened and the contents carefully expressed with gauze sponges. Drs. O'Brien and Brimhall then grafted a boy with an extensive burn according to the method of Reverdin with excellent results. In this case the small grafts were simply planted on the granulations.

The next case was a granulating area in the popliteal space of the left leg about 6x9 inches where the skin had been torn off by machinery. In this case, the tops of the granulations were shaved off with a sharp knife and the raised borders scraped with a sharp spoon. Not a blister raised on these Thiersch grafts and the patient was discharged in two weeks, during which time he slept on his abdomen.

The next case did not turn out so well; a wound on the right heel was grafted first with puppy skin and later with human skin from patient. Both grafts were partially unsuccessful owing to an infection, which existed on the leg, of *Bacillus pyocyaneus*. Dr. Wagner of Breslau calls attention to the fact that this particular infection is fatal to success in skin grafting.

In St. Paul, Drs. Harry O'Brien, Brimhall, Cook, Shimonek, Quinn and others, have used this method of skin grafting with success. Owing to the fact that Dr. F. Brüning,[1] assistant surgeon in the Lutheran Hospital at Freiburg, has published a short article detailing the excellent results attained by exposing grafted areas to the air, thereby antedating this communication, it is unnecessary to describe further our cases, although the exposure of freshly grafted skin to the air was probably practiced first in St. Paul. In the future, with so successful and easy a method of treating grafted wounds, the immense areas especially resulting from burns should be grafted with the skin of the lower animals. There is so much fat in the skin of dogs that this does not so readily lend itself to grafting, but the skin under chicken wings, and that of guinea-pigs and of rabbits ought to furnish material in plenty. Snipping off small bits of skin (Reverdin) and placing them on the granulating areas will assist us in cases in which Thiersch grafts cannot be obtained, and I think that this method will become popular again. The best preparation for a skin graft, in my opinion, is the open air treatment of the wound, as the granulations become small, firm and hearty looking, and the borders from whence epidermization proceed, take on new life and activity. When Thiersch grafts have been applied to the surface they will adhere firmly after from six to eight hours. The serum that oozes out between and around them should be carefully wiped up with gauze sponges, and the contents of small vesicles that may arise should be expressed. Cleanliness must be observed and if necessary a wire cage may be strapped over the parts during the night.

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[1] Zentralb. f. Chir., July 30, 1904.

GENERAL CONSIDERATIONS.

In burns involving large areas of skin the patient is exposed to death first, from shock; second, from toxemia due to absorption of poisons from the injured surfaces; third, from loss of function of the absent skin covering; and fourth, from exhaustion due to the long continued fight for recovery.

SHOCK.

So much has been written on this subject and so much awaits us that the last word can not yet be said, but it seems as though we ought to be able even now to form a fairly definite opinion of the pathologic conditions that confront us in shock, and to base a rational therapy thereon. If we take into consideration the physiologic experiments of hydrotherapy, in conjunction with the numerous experiments on shock and especially those of Sonnenburg, Crile, and Kinnaman, the following propositions may be assumed: Mental and physical irritants, either singly or conjointly, may produce a vasomotor paresis which results in lowering of blood pressure and in the accumulation of the blood in the splanchnic veins, i. e., "the patient is bled into his own belly." A fall in body temperature occurs which is due to an interference with the heat center in the spinal cord or to loss of function of the nerves in the cold anemic skin which convey temperature impressions to the center, whereby heat production and radiation are controlled. The lack of blood in circulation does not leave fluid enough for the heart to work on, and, mechanically in great part, produces the weakness marked by a small, rapid, thready pulse.

The brain torpor, faintness, the condensation of the perspiration on the skin (cold sweat), the intense pallor, the coldness of the extremities, the weakness of the heart and the compressibility of the pulse, are the signs which indicate anemia in these regions. In fatal cases of shock, there is often a peculiar motor restlessness in which the patient threshes about, throwing his limbs from side to side, uttering Oh! Oh! my! Oh dear! etc. at frequent intervals, and seems unable to fix his attention for more than a moment; these signs are almost pathognomonic of impending death. The fall in body temperature seems to me to be the most dangerous condition in shock, and this is borne out by Kinnaman's studies; this experimenter was able even to produce shock by simply lowering the temperature. In some cases of drowning, Dr. Bailey of Lake City, Minn., was able to resuscitate patients apparently dead by using hot wet blankets and hot baths. The "gilded boy," and animals varnished over the skin died of lowering of the body temperature.

The first indication in treatment would be to use some agent to combat the fundamental disturbance, which is the vasomotor paresis; the only drug that can at present be recommended for this purpose is adrenalin cautiously administered, and I would warn against the use of whisky, morphin, strychnia, digitalis, atropin, etc., because, while they act as heart and circulatory stimulants when the body is in normal condition, in shock they are only poisons to the susceptible nervous system already struggling under a load threatening to overwhelm it. Far better for our purpose is the symptomatic treatment of the resultant conditions. To assist nature to drive the blood out from the abdomen, give drinks and enemata of cold normal saline solution which add volume to the circulating medium; chafe the hands and feet and apply local warmth to the extremities, and especially to the nape of the neck. To counteract the fall in body temperature, use the hot bath and maintain a high temperature in the room. Finally, in order to add more fluid to supply the heart with something to work on use saline transfusion or hypodermoclysis.

Toxemia.—Occlusive dressings have been used from time immemorial in the treatment of burns, because, probably, the exclusion of the burned surface from the air relieved the pain; an added reason seemed to follow the discovery of the bacterial origin of suppuration and the presence of large numbers of germs in the air, but surgery now has discarded the use of Lister's spray, and few surgeons fear that colonies of germs will alight on the surface of a wound and infect the field of operation. It is rather hands, instruments, sutures, and the skin from which needles carry cocci deeper, to which scrupulous attention is paid. Ever since Krönlein and Volkmann's strife in the 70's was decided in favor of occlusive dressings as against the open method of treatment, we have been haunted by visions of the swarming enemies in the air ready to swoop down on us, and one of the first questions that occurs to the practitioner who sees a wound treated open to the air is, "how about infection?" In the first hours of a burn, the areas are effectually sterilized by the heat and when the eschars separate, nature has granulations which protect against invasion, and drainage can easily be kept almost perfect. In burns of the second degree, the crusts formed by Nature, perhaps assisted by some dusting powder, renders the field impregnable to germs which require heat and moisture for their development.

The sudden deaths that occur in the early period of a burn have been the subject of considerable study; Schultze and Wertheim, and Ponfick and v. Lesser explained them by alteration and destruction of red blood corpuscles, but the examination of the blood in cases of burns by Hoppe-Seyler showed that this theory is untenable. Silberman and others thought that capillary thrombi formed of altered red corpuscles lodged in the vital organs producing areas of anemia followed by inflammation. Sonnenburg ascribes death to sudden overheating of the blood with subsequent cardiac palsy, or to vasomotor paresis and apparently demonstrated the last experimentally. Anjello and Parascandola experimented with burned tissue injections into healthy animals and conclude that toxic ptomaines are absorbed which cause poisoning and death. Bardeen[2] found cloudy swelling and degeneration of the glandular organs, especially, in an examination of five small children dying from burns, and concludes also that death is due to a toxemia, indistinguishable from that which occurs in acute infections, but, curiously enough, he considers this the result of the high temperature. Von Dieterichs[3] says that the changes in the blood after burns are fully explained by the formation of hemolysins and hemoagglutinins, and the formation of other cellular poisons. It must be apparent that any ptomaines formed from destroyed skin and other tissues are kept in contact with the raw surfaces held suspended in a warm solution, under the most favorable conditions possible for absorption, because the oily occlusive dressings prevent the profuse perspiration from carrying them off by evaporation. That ptomaines or other poisons are absorbed under these conditions is shown clearly by the history of Case 1 and that of all the burns I have treated before that, as well as by many others of the seventy-five in this series: Whenever a crust formed over a granulating cavity which did not allow of the escape of the secretion, we could look for a rise in temperature, or even for albumin and casts in the urine. On the other hand, when the surfaces were kept clean and drainage was perfect, there was absence of these signs of intoxication. In Case 1, the promptness of absorption can be shown by an acute poisoning which resulted from the application of a picric acid wet dressing; in twenty minutes the patient was delirious, the temperature and pulse both shot upward and the urine had turned to a yellowish-green solution which almost solidified on boiling. Diffuse hemorrhages in the internal organs are almost characteristic of death from anthrax, or some equally violent toxic disease such as farcy, malignant smallpox or indeed any disease characterized by the rapid and free formation of toxins. Unfortunately, we were not allowed a single postmortem on the patients that died, but the absence of tarry stools, collapse, and bloody diarrhea in these cases would point to the non-occurrence of duodenal ulceration.

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[2] Johns Hopkins Bull., Apr. 1, 1897.
[3] Wein. med Woch., Nov. 21, 1903.

To avoid toxemia then, we must not interfere with free perspiration; the secreting surfaces must be kept clean, and, to avoid infection, we must render the surface dry and impregnable to germs and aid Nature in forming the adherent crusts under which healing goes on so rapidly, as pointed out years ago by John Hunter. Of other emunctories, the kidneys and bowels can perhaps be best assisted by free flushing, and what is better than large quantities of normal saline solution?

Loss Of The Function of The Absent Skin Coverings.—The far-reaching importance of the skin and its contained organs is not fully appreciated I feel sure. Aside from its function as an organ of protection and excretion, the nerve endings within it furnish the information by which both the circulation and the body temperature are properly maintained. Two pounds of sweat, is the daily average excretion besides the CO_2 and possibly other noxious gases. The importance of maintaining whatever amount of skin on the body has escaped burning in the highest state of functionating becomes manifest, and this is one of the reasons why the continuous full bath of Hebra is not the best treatment of burns; the skin works best in its natural medium, which is air. Another reason why the continuous bath is not best is that perspiration is interfered with. *Cold spongings and frictions are perhaps* the best stimulants to skin function and should be frequently practiced in treating burns. To supply artificial heat to the body, is another important indication and a temperature as near the body heat as possible should be maintained constantly during the first weeks of a severe burn.

Exhaustion.—Long-continued suppurative processes or even serous discharges from granulating surfaces, lead to general emaciation, weakness, and perhaps amyloid or other changes in the vital organs. The best preventive is to graft as soon as possible the surfaces which have been burned to the third degree. Nourishing diet, as much exercise as possible, and supporting measures suggest themselves.

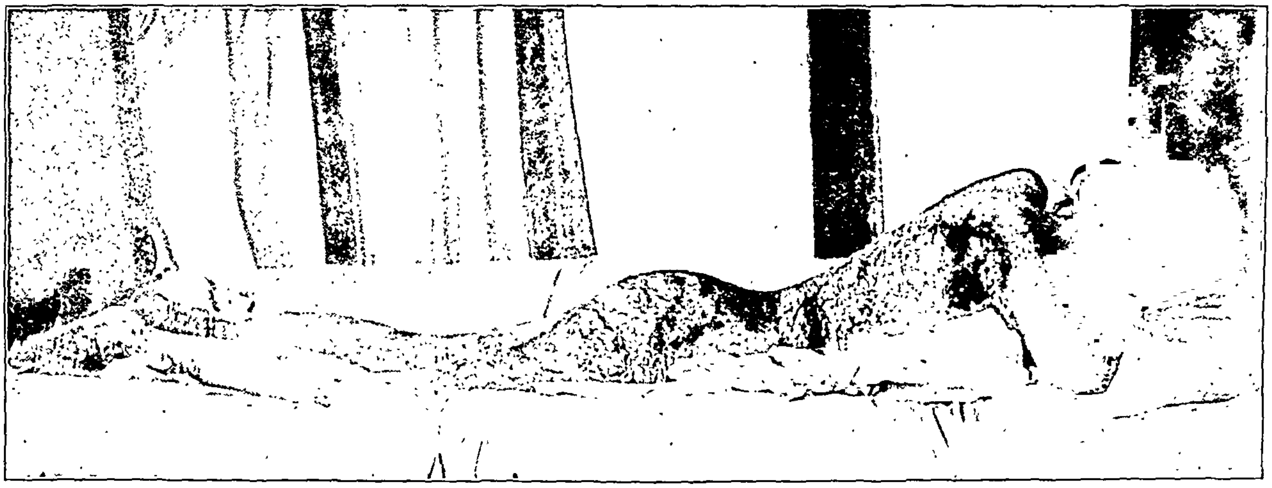

Figure 6.—Showing extent of burn in Case 6.

Open Treatment of Wounds.—For several years H. Wagner[4] has treated chronic ulcers and granulating wounds by the open method with the happiest results. He says that occlusive dressings keep the edges of the wound macerated, swollen and unhealthy so that often little or no progress toward healing is made. "In spite of antiseptic salves the secretions in the moist chamber form the most favorable nidus possible for bacterial development." "The danger of infection is practically *nil* with the open method of treatment, but naturally patients should not be exposed to erysipelas, etc. He has treated wounds on an individual with salves and the open method at the same time for comparison, and finds the open method vastly superior. Wagner leaves the wounds open by day and covers them over with some powder at night.

Oscar Barnard[5] exposes unhealthy wounds to the sun's

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[4] Zentralbl. f. Chir., Dec. 12, 1903.
[5] Muench. med. Wochft., Jan. 5, 1904.

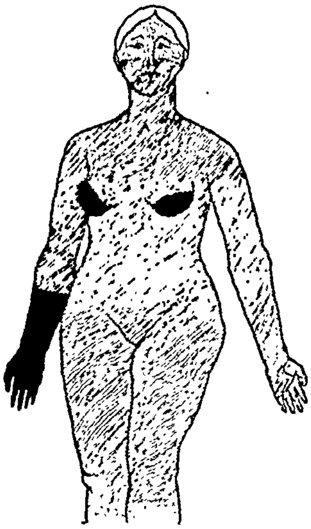

Figure 7.—Showing extent of burn in Case 7.

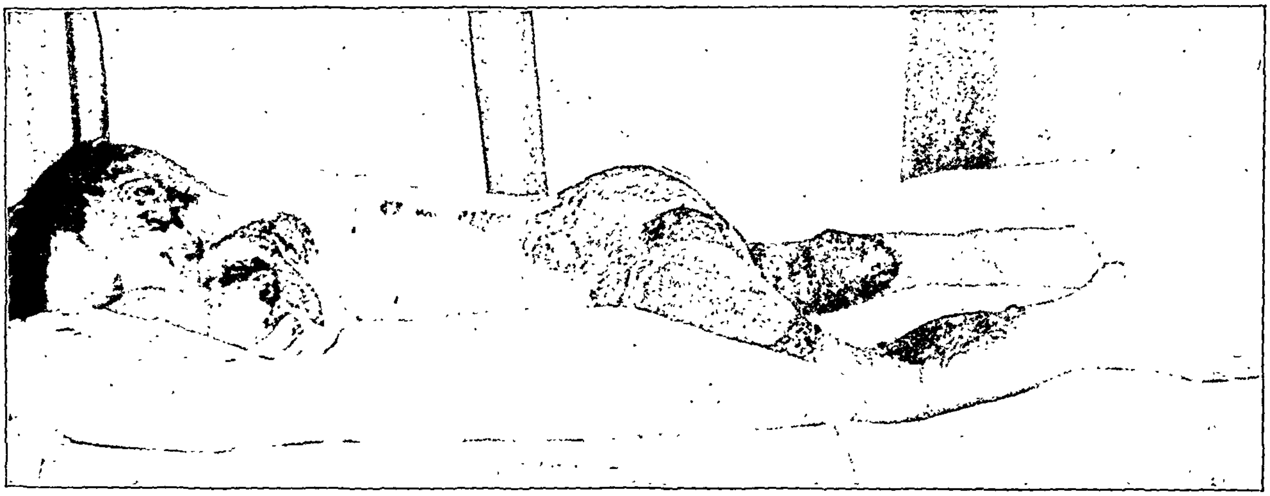

Figure 8.—Showing position voluntarily adopted by child, and extent of burns.

rays and to the air, aiming to secure some chemical effect from the first, and a drying out of the granulations by the latter. Although he claims to have practiced this method since 1902 and claims priority over Wagner of Breslau, it seems clear from his writings that he exposed granulating wounds to the sun and air more as a method of treating the granulations than as a method of securing epidermization, and then only at certain hours in the day. Brüning at Freiberg was induced to try the open method of treating wounds by Wagner, and this led him one step further, namely, to leave his skin grafts exposed to the air, as mentioned above.

That "there is nothing new under the sun" receives confirmation again in this treatment of burns: Dr. W. P. Copeland[6] of Eufala, Ala., describes two cases of minor burns, which had been treated for some time in the usual way, in which he removed the dressings and exposed the wounds to the air; pasteboard boxes were placed over them to keep anything from touching the wounds.

Twelve years later, Dr. G. Archdall Reid[7] described his modification of the open method, which consists in putting dressings and bandages over a wire cage, and sponging the wound three or more times daily with some mild antiseptic solution. "Frequently waterproof is put over the cage to keep the discharges from drying or caking." The results were to him extremely gratifying, and he notes the absence of pain during treatment, and of keloid masses and thick cicatrices which continually break down afterward. This cage method is about the same thing as Meyer's moist chamber for skin grafts.

SUMMARY.

When first seen, burns and more particularly scalds are apt to prove deceptive as regards their degree, and it is wise to withhold prognosis in the beginning. Whenever occlusive dressings are kept on, even for forty-eight hours, I *am confident that these will frequently convert* a first into a second and a second into a third degree burn through confinement of the perspiration and maceration of impaired tissue. One of the remarkable things in this experience with burns is the small amount

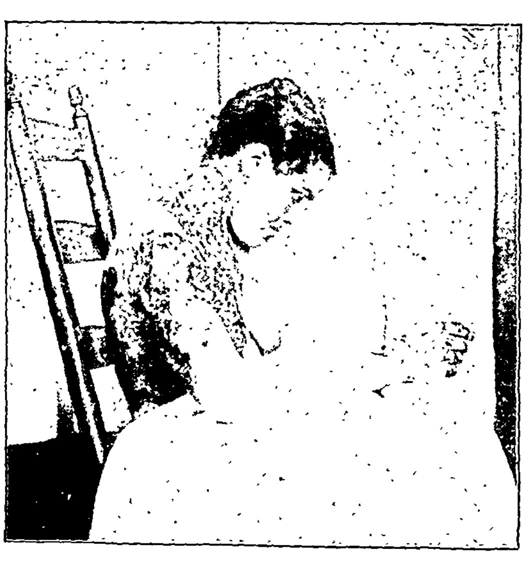

Figure 9.—Gasoline burns involving right upper quarter of body. Photograph taken six weeks after accident, showing burns of second degree healed.

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[6] Med. Record, May, 1887.
[7] London Lancet, March, 1898.

of pain suffered by the patients and its short duration when the wounds are left exposed to the air. Severe pain, when not obscured by shock, only lasts from six to twelve hours, and I think is better controlled by hypodermics of morphin than by any other measure. I would urge that as little morphin be given as possible; it should not be given when shock is present..

Another astonishing feature is the character of the cicatrices after healing. In burns of the second degree, the skin is reproduced so well that only a white color marks the scar. Third degree burns result in smooth, flexible, skin-like scars. Two factors probably account for this: First, the tops of granulations which grow into the meshes of the dressings are not torn off, day by day forming scar ridges throughout the substance of the scar which firmly anchor the skin covering and probably interfere with its nutrition; and second, Nature seems better able to control the growth of the firm, small, healthy granulations which result from exposure to the air—a marked contrast to the large flabby efflorescent masses seemingly growing without direction in the moist chamber of an occlusive dressing. The length of time for skin to cover a wound, judging from Wagner's and my own observations, is shortened about two-thirds as compared with the time required under occlusive dressings. Wagner estimates that a normal granulating surface the size of a saucer can be healed over in from eight to ten days.

First, treat the shock as indicated above.

Second, control the pain as necessary and keep everything from contact with the burned areas.

Third, keep the patient surgically clean. Ordinary surgical principles govern here as elsewhere; bichlorid of mercury, carbolic acid and other strong antiseptics are to be avoided when possible because they are such powerful cell poisons that toxic effects both general and local are to be feared; the delicate covering of granulations will not stand escharotic action without interfering with the production of smooth, flexible scars.

Fourth, give frequent cold sponge baths to the sound skin with frictions, and keep room temperature high.

Fifth, cut away all blisters, cleanse with normal salt solution, dry thoroughly, and dust all second degree burns with stearate of zinc, carefully wiping away serous exudate until dry, brown, adherent crusts are formed.

Sixth, leave third degree burns exposed without powder and keep surface clean until granulations are ready for skin grafting.

Seventh, to maintain and to preserve function, body and limbs should be exercised as much as possible; the eschars of burns to fourth degree should be removed when Nature so indicates and amputation should be performed when needed.

My thanks are due the St. Paul surgeons mentioned in this paper and to Interne Dr. C. L. Larson of the City Hospital for a transcript of the records.

RADIUM TREATMENT OF CANCER OF THE ESOPHAGUS.*

MAX EINHORN, M.D.

NEW YORK CITY.

Cancer of the esophagus is one of the most intractable diseases with which we have to deal. Not even modern surgery has succeeded in combating this disease. Gastrostomy may for a time prolong life; it is, however, connected with certain dangers and annoyances and does not attack the real focus of the disease. It is, therefore, natural for the physician to search for new means of treatment in this malady.

When Roentgen gave his *x*-rays to the world, I experimented with them in cancer of the esophagus and stomach. In my cases (six in all), this method of treatment was of no avail, because the tumor lies deeply hidden and is covered by other parts of the body (skin, muscles, thorax). The rays, therefore, do not penetrate sufficiently to the tumor in any considerable strength.

After Curie had discovered the wonderful radium and had found the effect of its rays to be analogous to that of the Roentgen rays, I tried to apply radium locally by means of small receptacles in affections of the esophagus, stomach and rectum.[1]

On Jan. 22, 1904, I demonstrated this method of treatment on one of my patients suffering from carcinoma of the esophagus at a meeting of German physicians at New York. Exner,[2] independently of myself, followed out the same idea and on Jan. 28, 1904, published an article entitled "The Treatment of Esophageal Cancer by Means of Radium."

Somewhat later I[3] reported the results of local treatment with radium in 9 cases of cancer of the esophagus; in 6 a marked widening of the stricture was found.

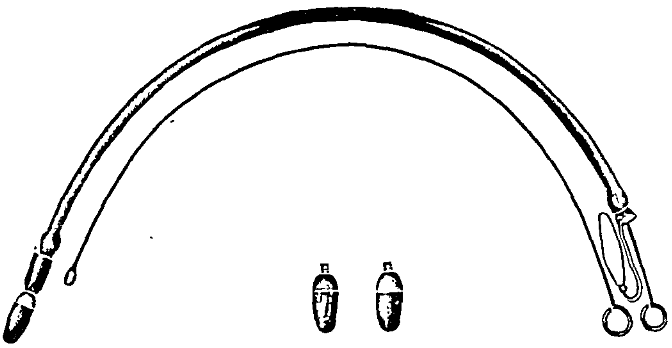

Fig. 1.—The esophageal receptacle with tubing and mandrin.

Here I would like to report on 72 new cases of cancer of the esophagus in which local applications of radium were made.

METHOD.

The radium receptacle for the esophagus consists of a rubber tube (about 17 F. diameter) which is provided with a mandrin and a capsule, the lower part of which is made of hard rubber and the upper part of metal. The two halves are screwed together. The upper part of the capsule is provided with a screw thread by means of which it is attached to the tube portion (Fig. 1).

The capsules are made in three different sizes to fit strictures of various widths.

MODE OF APPLICATION.

The radium vial is placed in the capsule of the instrument and the latter screwed tightly together. The apparatus with the mandrin, having been first immersed in warm water, is introduced into the esophagus, with the patient in the sitting position (best in the fasting condition), and is pushed forward to the stricture. In introducing it, it is best to depress the tongue with the left index finger and to hold the instrument like a pen in the right hand, compressing it somewhat so that the mandrin remains in place. When the stricture has been reached, as evidenced by the resistance, the mandrin is removed and the end of the rubber tubing fastened by means of a thread to the ear of the patient. The instrument is allowed to remain in the esophagus from one-half to an hour, according to the needs of the case, and is then removed.

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*Read before the East Side Medical Association, New York, 1905.

[1] Max Einhorn: "Radium Receptacles for Esophagus, Stomach and Rectum." Medical Record, 1904, p. 399.

[2] Wiener klin. Wochen., No. 4, 1904.

[3] Max Einhorn: "Observations on Radium." Medical Record, July 30, 1904.

When employing the larger capsule it is necessary when withdrawing the instrument to make the patient swallow when the cricoid cartilage is reached in order to avoid the resistance encountered at this spot.

After having removed the instrument, wash it, unscrew the capsule, open it, and remove the radium vial. The instrument may be easily disinfected.

The same instrument may be used in gastric carcinoma. It must then naturally be introduced into the stomach.

RESULTS OBTAINED IN THE NEW CASES.

I have lately treated seven patients suffering from cancer of the esophagus with local applications of radium. In all the diagnosis was established beyond doubt. They were all individuals who had been suffering from three to six months from dysphagia, becoming gradually worse and on examination with the bougie showed a stricture of the esophagus. In one of the patients (Mrs. M.), the tumor was seen with the esophagoscope. In the other six, the esophagus was not inspected.

Patient.—One of the seven cases (A. S.) was a private patient of mine about 75 years old.

Examination.—Nov. 10, 1904. Swallowing sound absent; bougie (35 F.) encountered resistance 15 inches from the teeth.

Treatment and Result.—He was treated for about two and one half months (from Nov. 10, 1904, to Jan. 20, 1905) with 0.05 gram of the pure radium bromid for about half an hour every second day. Exact measurements of the stricture were not made afterward. Before beginning treatment the patient could hardly swallow fluids. During treatment his condition improved, he could take fluids without difficulty and even semi-solid food was well borne. Even after stopping the applications of radium, the ability to take fluid and semi-solid food remained, and the patient was entirely free from pain until the present time. In consideration of the age of the patient no exact measurements of the stricture were made, so that we are unable to say whether the stricture widened. Nevertheless, the result is satisfactory.

The other six patients were treated at the German Hospital, New York. In each 0.25 gram of Curie's radium of 20,000 activity was applied to the stricture for one hour daily. Once a week, exact measurements were taken to determine the distance of the stricture from the teeth, as well as the circumference of the stenosis by means of bougies of different size. The radium applications were made by means of the esophagus receptacle. The instrument was pushed forward to the stricture and allowed to remain there. I would like to emphasize the fact that no force whatever was used either in the introduction of the instrument or in the measurement by means of the bougie. We can therefore exclude any mechanical dilatation of the stenosis.

Neither in the 7 cases just reported nor in the previous 19 have I ever met with any disagreeable accidents that might be ascribed to the radium treatment.

In the following table I have tabulated the 6 cases treated in the German Hospital:

TABLE OF CASES OF CARCINOMA OF THE ESOPHAGUS TREATED BY MEANS OF RADIUM AT THE GERMAN HOSPITAL.

Name.	Age.	Length of Treatment.	Result of Examination by Bougie. At Beginning of Treatment.	Result of Examination by Bougie. At End of Treatment.	Remarks.
1. A. S.	32	Feb. 22-Mar. 9, 1905 (16 days).	Bougie 32 F. encounters resistance 15¾ in. from the teeth.	Bougie 39 F. encounters resistance 16½ in. from teeth.	Patient feels somewhat better.
2. A. G.	55	Mar. 9-Ap. 6, 1905 (29 days).	Bougie 20 F. encounters resistance at 17⅛ in; bougie 39 F. at 16½ in. from teeth.	Bougie 42 F. encounters resistance at 17½ in. from teeth.	Patient has improved considerably. He can swallow better and has no pain.
3. A. K.	38	Mar. 22-Ap. 20, 1905 (20 days).	Bougie 20 F. encounters resistance at 17 in. from teeth, but passes thro'; bougie 39 F. can be inserted only to 16½ inches.	Bougie 43 F. passes into stomach without resistance.	Patient has gained and can now take semi-solid and even solid substances.
4. C. M.	39	April 6-28, 1905 (23 days).	Bougie 20 F. encounters resistance at 14¾ inches; bougie 39 F. at 16½ inches from teeth.	Bougie 52 F. passes into stomach without resistance.	Patient feels better; she can take semi-solid and some solid food.
L. Z.	50	Ap. 13-28, 1905 (16 days).	Bougie 26 F. encounters resistance at 15 in.; bougie 39 F. at 14 in. from teeth.	Bougie 52 F. passes into stomach without resistance.	Patient can now take solid food; has gained 8 pounds.
6. B. B.	53	Ap. 10-28, 1905 (19 days).	Bougie 25 F. encounters resistance at 11 in. from teeth.	Bougie 35 F. encounters resistance at 12½ in. from teeth.	Ability to swallow has not particularly improved. Has brought up at times a little bloody mucus, especially after the radium treatment; slight rises in temperature occasionally.

In looking over this table we find that in all 6 cases the stricture has improved under treatment. In 3 (Cases 1, 2, 6), the stricture did not become passable; the bougie, however, could be introduced deeper. In the other 3 (Cases 3, 4, 5), the stricture became passable for rather thick bougies (43-52 F.).

The improvement could usually be observed after a week's treatment, at times even earlier.

All these patients felt better than they did before treatment; 5 could swallow better; 3, in whom the stricture had become entirely permeable, were able to take semisolid and even solid food. The pain was less in five of the six patients.

The results obtained are very satisfactory, since we have to deal with an affection which has not been amenable to treatment until now. In the methodical application of radium we have the means to influence favorably the course and seat of the disease and to retard its progress, even if at present we can not entirely remove it. This mode of treatment is certainly destined to play an important rôle in the therapeutics of cancer of the esophagus and deserves to be tried on a large scale and in a thorough manner. Should my results be confirmed by other clinicians, radium therapy should take a high rank in the treatment of cancer of the esophagus.

The time is not far distant, writes E. L., in the *Alkaloidal Clinic*, when our great and grand profession will stand shoulder to shoulder, not only for the advancement of medical science, but for the protection of each other against unjust demands by the public and against unjust and selfish criticism by the members of our own profession.

WANDERING OR ABERRANT UTERINE FIBROMYOMATA.

VAN BUREN KNOTT, M.D.

SIOUX CITY, IOWA.

This paper will be limited to a consideration of that rare form of tumor known as wandering, aberrant or sequestrated fibromyoma of the uterus.

An attempt to review the literature on the subject has proved distinctly disappointing, as, although the files in the Surgeon-General's Library at Washington and the Newberry Library in Chicago have been thoroughly searched, but few cases have been found, and these are reported in an incomplete and unsatisfactory manner.

The tumor under discussion presents all the gross and microscopic appearances of a true uterine fibromyoma and yet it is found to have absolutely no connection with the uterus or its appendages. A tumor originating in the uterus as a subserous fibromyoma, has been transplanted to another site, frequently to tissue widely different from that from which it sprung, and from which it derives its support and nutrition. In a few reported instances the tumor has been found lying free in the peritoneal cavity having formed no adhesions or new vascular connections. The action of the uterus in thus transferring to some neighboring and passively receptive organ this unwelcome and troublesome guest with the demand that the tumor not only be allowed to remain in the new location but that nutrition and all future care must be furnished by the new parent reminds one forcibly of the habits of the cuckoo which deposits its egg in the nest of an obliging neighbor, calmly leaving the hatching and rearing of the offspring to the unsuspecting friend.

These tumors are usually found in women whose uteri contain one or more fibromyomata in addition to the one which has been transplanted; but there may be only a single tumor and after separation from the uterus that organ will present no evidence of myomatous degeneration.

As is well known, subserous fibromyomata as they develop and follow the line of least resistance, which leads toward the abdominal or pelvic cavity, frequently become pedunculated, and it is a matter of common observation to find these pedicles long and more or less attenuated. This condition having been acquired, what, then, is the next stage in the evolution of the growth? In those cases in which the tumor has been found loose in the abdominal cavity and has established no new attachment or source of vascular supply, it has been very small in size, as in the case reported in a personal communication by Dr. J. M. Baldy of Philadelphia, where at the operation for the removal of a myomatous uterus he found a small detached fibroid the size of an English walnut lying entirely free in the cavity. These small, loose tumors having no blood supply could not survive for any length of time, and I am inclined to believe that they may have become loosened during the examinations to which these patients have been subjected, as many of them are examined more than once and often days or weeks before coming to operation. That such separation could occur spontaneously may not be denied but that such a mass detached from all vascular connections could long survive is incredible. I incline to the opinion that the train of events leading up to the loosening of these tumors from the uterus and their attachment in a new location (and most of them are so attached) is as follows:

With the elongation and attenuation of the pedicle, the fibroid mass acquires a steadily increasing range of motion which permits it to come more or less readily in contact with neighboring viscera. This contact, which at times may be quite forcible when the tumor is large, may induce a sufficient degree of peritoneal irritation to cause lymph exudation and a low grade localized peritoneal inflammation with the perfectly logical sequence of adhesion occurring between the peritoneal surfaces of the tumor and the organ with which it is in contact.

This adhesion eventually becomes quite firm and organized and it is not long until the growth is obtaining a new blood supply from the tissues of its foster parent. The adhesion having thus become firm and resisting, if much traction on the mass results it will be made manifest at the point of weakest attachment, which is now the long thin pedicle. This, being no longer equal to the strain periodically put on it, by changes in posture or by the mobility of the part or parts to which the tumor is attached, ruptures, and the detachment of the myoma is complete.

A tumor connected to the uterus by a long slender pedicle may be released by spontaneous rupture of the latter and its range of motion and power to excite peritoneal irritation, having been thus increased, it sets to work the agencies just described and rapidly finds a new place of abode and a new source of nutrition.

Turner[1] in an article on this subject has advanced a somewhat similar opinion. Roger Williams[2] states that these tumors are particularly prone to inflammation which may go on to gangrene and also that calcareous degeneration commonly occurs in them.

These growths may be found attached at any point within the pelvis. Williams states that they may be found grafted to the great omentum, Douglas' pouch, the pelvic margin, the intestines, etc. The diagnosis of these tumors, of necessity, will usually be made at operation, for an accurate conclusion as to the real pathology could scarcely be reached by examination.

The treatment may be briefly stated to consist in their removal unless the patient presents some definite contraindication to operation. Their attachment to important organs, with whose function they may interfere, and their tendency to inflammation render them more formidable than an ordinary uterine fibromyoma.

The earliest recorded case which I have been able to find was reported by West[3] in 1858. He describes a case in which he found a fibroid the size of a walnut in Douglas' cul-de-sac and supported by a "false membrane between the uterus and rectum."

Sir James Simpson[4] in 1871 reported having seen "several instances" but gave no details.

Porter[5] in 1875 exhibited at the thirty-seventh annual meeting of the Dublin Obstetrical Society a specimen of a fibrous tumor which he had found lying free in the abdominal cavity of a woman aged 50. Cases have also been reported by Eve,[2] Depaul,[2] Wylie,[2] Rindfleisch,[2] Homans,[2] Wallace,[2] Routh,[2] and Nélaton.[2]

In Routh's case, a calcified myoma the size of a turkey's egg, detached from the uterus and grafted on the small intestine, was successfully removed.

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[1] Turner: Edin. Med. Jour., Feb. 1861, p. 698.
[2] Williams: Uterine Tumors, p. 75.
[3] West: Lectures on the Diseases of Women, p. 210.
[4] Simpson: Selected Obstetric and Gynecologic Works, p. 716.
[5] Porter: Dublin Jour. of Med. Science, vol. iii, p. 247.

In Wallace's case, a calcified tumor was removed from the tissues of the brim of the pelvis.

Senn[6] reports a case in which, at a laparotomy for multiple myomata, he found in the abdominal cavity a detached tumor as large as a small pear. The apex of the tumor tapered to a small point marking the place where the pedicle became detached.

J. Whitridge Williams, Baltimore (personal communication), reports two cases in which subperitoneal myomata had formed vascular connections with the omentum and were completely detached from the uterus. Both were undergoing calcareous degeneration and were successfully removed.

Charles P. Noble, Philadelphia, who has had a very large experience with fibromyomata, reports (personal communication) that he has never seen an example of a detached myoma.

F. H. Martin, Chicago, reports (personal communication) two patients operated on by him in whom subserous fibromyomata had broken away from their uterine attachment and had established nutritive attachments to the omentum and intestine.

J. M. Baldy, Philadelphia, reports (personal communication) two cases in which he discovered at operation a small detached tumor the size of an English walnut lying perfectly loose among the intestines and states that he could not understand how they derived their blood supply. My own experience with tumors of this class is limited to two cases, a brief description of which follows:

Case 1.—Mrs. E., aged 46, was referred to me by Drs. Bushby and Brown of Primghar, Iowa.

History.—The patient had borne five children and had enjoyed unusual health. There was nothing of importance in the previous history until about one year previously when she began to suffer with vague abdominal pains and noticed a gradually increasing tendency to constipation. These symptoms persisting, she consulted her physicians who sent her to me with a diagnosis of tumor of the left ovary. After careful bimanual examination I too came to the conclusion that the growth was of ovarian origin but could not satisfy myself as to its classification. In view of the distress occasioned by the tumor its removal was advised.

Operation.—July 19, 1904, at St. Joseph's Hospital. On opening the abdomen with the patient in the Trendelenburg position I was surprised to find the uterus with both ovaries and tubes perfectly normal. Nesting against the left side of the pelvis was a globular tumor the size of a large orange and very hard and firm. It was intimately attached to the parietal peritoneum and to the mesocolon. The adhesions binding the tumor to these structures were organized and very vascular and were cut between ligatures. Much time and patience was required to effect the removal of the tumor but it was finally accomplished and the raw surface covered with peritoneum.

Remarks.—It was only after the tumor was completely removed and in my hand that I recognized its true character. It presented all the characteristics of a large subserous myoma of the uterus and at one point tapered slightly, indicating the spot to which the pedicle formerly connecting it with the uterus had been attached. The uterus was again carefully examined with the hope of finding some slight scar to mark the former attachment of the pedicle, but none could be detected. The abdomen was closed and the patient's recovery was uneventful. The pathologist reported the tumor as a fibromyoma doubtless of uterine origin.

Case 2.—Mrs. L., aged 57, was referred to me by Dr. George White of Plankinton, S. D.

History.—The patient was the mother of one child; she had never become pregnant again and suffered with dysmenorrhea and some menstrual irregularity, the intervals between menses being frequently a week or ten days too long. Menopause occurred at 47, since which time she has been very well. January, 1904, she noticed some beginning enlargement of the abdomen. July, 1904, she "flowed" for six days; no further discharge was noticed. The abdominal condition remained stationary occasioning no symptoms and marked by no noticeable increase in size until December, 1904, when she discovered that the growth was rapidly becoming larger. At this time, she consulted Dr. White, who referred her to me for hysterectomy. With the history of the case as a guide, a diagnosis of uterine fibromyoma probably undergoing malignant degeneration was made, and immediate operation was advised and accepted.

Operation.—Jan. 4, 1905 at St. Joseph's Hospital. The abdomen was opened, and the uterus, which contained many tumors varying in size from a walnut to a base ball, was completely removed, it being considered unsafe, owing to the possibility of malignancy, to leave the cervix. Attention was now directed to a large tumor the size of a fetal head attached to the right lateral wall of the pelvis, adherent to the parietal peritoneum and to the mesentery of the ileum and cecum. This tumor presented the characteristics of a large pedunculated uterine fibromyoma but had absolutely no attachment to the uterus or to any of its appendages, all of which had been removed without in any way disturbing the blood supply or loosening the adhesions holding the tumor firmly in position.

As in the former case, the adhesions were very vascular and the enucleation of the tumor was accomplished with considerable difficulty. At one portion of the tumor was found what was assumed to be the remains of the pedicle which had formerly formed its attachment to the uterus. The raw surfaces left after the removal of the growth were covered by peritoneum and the abdomen closed. Patient's convalescence was normal.

The pathologist (Dr. Henry Albert) reported that the tumors within the uterus as well as the detached growth were fibrosarcomata and gave it as his opinion that the detached tumor had originated in the uterus.

In neither of these two cases at the time of operation was the tumor attached to the uterus, the tubes, the ovaries or the round ligaments, nor imbedded in the broad ligament, in all of which organs myomata are frequently found.

I have taken the liberty of reporting the second case under the title fibromyoma, as although at the time of its removal it was diagnosed by the pathologist as a fibrosarcoma, I consider it quite probable that at an earlier period in its development it would have been found to present the characteristics of a fibromyoma. It is neither possible nor proper at this time to take up the question of the transformation of benign tumors of the uterus into malignant growths. That such a transformation does occur, however, I firmly believe from my experience in several cases and for that reason I include Case 2 in this report.

I wish to acknowledge the assistance which I have received in the preparation of this article from Dr. Palmer Findley of Chicago, and the excellent work on tumors of the uterus by Roger Williams, as well as those gentlemen whose names are mentioned in the text as having, in personal commmunications, acquainted me with their experience in similar cases.

Importance of Catharsis.—The intestinal tract can hold an immense quantity of fecal matter. Do not, therefore, argue that you have an empty bowel because the patient says he has had free stools. Sweep out the *primæ viæ* and then keep up normal peristaltic activity and you will discharge two cases while your rival is treating one.—*Alkaloidal Clinic.*

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[6] Senn: Pathology and Treatment of Tumors, p. 498.

THE TREATMENT OF TETANUS BY INTRANEURAL AND INTRASPINAL INJECTIONS OF ANTITOXIN.*

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Some recent laboratory studies in the toxicology of tetanus seem to offer a little more hopeful therapy than has hitherto prevailed. To make the subject clear, it is necessary to review, briefly, what is known of the micro-organism, its poison and the natural antidote. The bacillus is anaërobic, and exposure to sunlight and air are inimical to it, but it can exist, at least in the spore state, for great lengths of time in every conceivable place contiguous to man and the domestic animals. The superficial layers of cultivated earth seem to be its favorite habitat, possibly because it is said to be a normal inhabitant of the intestine of the horse and has often been found in the feces of man and other animals; nevertheless, it is not generally considered normally a parasite. With such a distribution, the ingestion of the bacillus with raw vegetables and its inhalation in dust are readily conceivable and it is hardly necessary to note that the micro-organism has been demonstrated in the human bronchial secretions. As the bacillus only needs a lesion of the skin or mucous membrane in order to gain access to the body, an explanation of the etiology of many obscure cases of the disease is obvious. In addition to the requirement of a breach in the continuity of protecting epithelium necessary for the entrance of the germ into its host, several other factors must be combined, and hence the comparative rarity of this disease.

Inoculation of a susceptible animal with a pure culture of either the bacilli or their spores, provided these are not in excessive or massive dosage—in other words, inoculation with such a dosage as would be encountered under natural conditions—results in a positive chemotaxis, and the germs are taken up and apparently, as a general rule, destroyed by the leucocytes; anything which hinders this process of phagocytosis conduces to the growth and development of the parasites and the disease.

In the course of such an inoculation experiment, the bacilli or their spores are found to become less and less numerous at the point of infection until, at the end of twenty-four hours, they cease to be demonstrable by the microscope, except within the leucocytes and by cultures. They are thus carried to the neighboring lymph nodes and to distant organs, where apparently they perish or rarely retain their vitality indefinitely; under favoring conditions in their host, such as a lowered vitality or a severe trauma, they may develop and produce symptoms or death. A guinea-pig, which ordinarily perishes within a few days or hours after inoculation, has been known to survive without symptoms for over four months after an experimental infection, and then without apparent cause develop the disease and die quickly. In man there are from time to time reported cases in which there seems to have been a very long incubation period, followed by an acute and violent development of symptoms. This, of course, is contrary to the general rule, which is that a mild course follows a prolonged incubation period. For this somewhat unusual state of affairs there are several explanations which can be reduced to almost the single phenomenon of phagocytosis. At least anything which interferes with this process, like the introduction with the bacilli of foreign bodies or the devitilization of the surrounding tissues or the simultaneous inoculation with saprophytes or pyogenic cocci, and this symbiosis is particularly favorable to the tetanus bacilli, leads to the more or less rapid development of the latter.

As deficient phagocytosis seems the most important factor in the development of the disease, the reasons for an acute course, with a preceding long period of quiescence after the original infection, are more or less obvious. The host's resistance was at first good and later becomes impaired, perhaps because of the traumatism of a foreign body which in itself favors a later lodgement of pyogenic cocci approaching from the skin or blood, or there may be a secondary traumatism or general infection of otherwise innocuous bacteria. A short incubation period and a violent course of the disease would necessarily follow a considerable mixed infection with or without an accompanying damage to or necrosis of surrounding parts.

After death, the tetanus bacilli are found most abundantly in the immediate neighborhood of the point of inoculation and less abundantly in the blood and distant organs, and they have been demonstrated to be present and virulent months after the burial of their host. In addition to the bacilli, the characteristic postmortem findings consist only in rather slight degenerative changes in the spinal ganglia. The chief interest, of course, attaches to the toxin by which all the symptoms of the disease are alone produced. It was one of the first bacterial poisons isolated and was soon proved to exert its effects solely on the ganglia of the central nervous system. At present it is of merely academic interest to note that it has been separated into two distinct bodies—tetanospasmin and tetanolysin—one producing the characteristic spasm and the other destruction of the red blood corpuscles.

The horse and man are the two most susceptible animals, while fowls are very resistant. At low temperatures, frogs can withstand immense doses, but when their temperature is raised to 37° C. their susceptibility approaches that of the mammals. Young guinea-pigs are more easily affected than older animals. This varying susceptibility is obscure, and in different animals may be due to different causes, such as fixation of the poison by other organs than the ganglia of the central nervous system, or inability of the toxaphore portion of the poison to unite with these ganglia.

A greater or less degree of immunity, as in other infectious diseases, may be produced by the repeated injection into an animal of a toxin weakened by one of several methods. This immunity depends on a substance existing in the blood and body fluids which as yet is of undetermined origin. It was once thought to be derived from the cells of the central nervous system, as an emulsion of brain tissue and toxin can be injected into a susceptible animal with negative results. Other facts, however, render this conclusion improbable and the antitoxin is now generally believed to have a multiple peripheral origin. It does not arise exclusively, if at all, in the nerve ganglia, and, although phagocytosis seems to have a very important influence on this infection, the leucocytes are probably not the sole source of the protecting body. However it may be derived, the antitoxin acts by neutralization of the toxin very much as an acid neutralizes an alkali.

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* Read before the Gouverneur Hospital Alumni Society, 1905.

A great many curious facts have been brought out by the work on immunization, but, as they have no direct bearing on the treatment of tetanus, at least so far as we know at present, they require only the briefest mention. The horse, for example, is one of the animals most susceptible to tetanus toxin and the chicken is one of the least susceptible. In the chicken, the poison can be demonstrated as circulating unchanged in the blood several days after inoculation. The horse, although far more susceptible, requires a much larger fraction of the lethal dose to give manifest symptoms than does the chicken, which gives a reaction with from one-tenth to one-fifteenth of the amount of toxin necessary to produce death. To show the same symptoms, the horse requires nearly one-half of the lethal dose. This has a bearing on the production of immunity artificially, because it has been found that for any given animal the toxin to be injected must be weakened in such a way—either by heating or by mixing with one of the iodin compounds or with varying quantities of antitoxin—as to make the "sickening" dose, or the amount which will just produce symptoms, as small a fraction of the lethal dose as possible. Then the longer the interval between the time of injection of the weakened toxin and the time when symptoms first appear and, in general, the more susceptible the animal, the better is the protective power of the serum. Without this protective substance, i. e., if it is withdrawn, the animal is much more susceptible to tetanus than an untreated animal. Moreover, during the process of immunization, an over-susceptibility is developed; that is, the animal under investigation can be killed by a fraction of the dose which would be innocuous to another animal previously treated with the endangered, immunized animal's serum. These facts and others are of importance or interest in the production of antitoxin, but apparently have no other bearing on the practical therapeutics of the disease.

There is much more direct interest attaching to the mode of absorption of the toxin. The incubation period was long a puzzle, for, no matter where the toxin was introduced into the body, provided it was not into the substance of the cord, a considerable incubation period always elapsed before the appearance of symptoms. Then it was noted that the toxin, after inoculation, could only be demonstrated in the blood and nerves, and that, as a general rule, the larger the animal the longer was the interval between infection and the outbreak of symptoms. With these slight suggestions, Marie and Morax, and later Meyer and Ransom proved the very remarkable fact that the toxin which was already known to act solely on the ganglia of the central nervous system, reached these ganglia only by way of the motor nerves. Wherever in the body it may be injected, some of the toxin diffuses through the tissues to the neighboring end-apparatus of the motor nerves; the rest of the toxin passes into the lymphatics, thence into the general circulation and out again to the capillaries, where it comes into contact with all the other motor nerve end-apparatus. From these points (under natural conditions). the toxin enters the axis cylinders of the motor nerves. through which it flows or is transmitted to the spinal ganglia. Even when injected into the subarachnoid space, provided no lesion of nervous tissue is produced. the incubation period is the same, as the poison follows the same course through the lymphatics, the blood and the capillaries, to the motor end-apparatus and thence back through the motor nerves to the cord and upward, probably in the motor tracts, to the medulla. The sensory nerves can not take up the poison and have no direct part in the process. Some of the experiments which elucidate these facts require a brief review.

It has long been known that the toxin exerted its effects solely on the central nervous system and that after death it could only be found in this system and in the blood. It can not be found, by the way, in any of the secretions or excretions, except in the urine, and then only after the experimental administration of enormous doses. Therefore, it remained to trace the progress of the toxin from the periphery to its final destination, and this Marie and Morax and after them Meyer and Ransom finally seem to have succeeded in doing. It was found that one and one-half hours after intramuscular injection in the hind leg of a guinea-pig the toxin was easily demonstrable in the corresponding sciatic nerve. If at the time of the injection the nerve were cut high up, the toxin could not be found in the nerve until after the elapse of about twenty-four hours, while if the nerve were cut six days before inoculation, or long enough in advance to insure degeneration of its axis cylinders, none of the poison was absorbed by the nerve. At the same time, if simultaneously with the injection of the toxin in the foot, the nerve were divided at about the middle of the leg, the proximal segment was found to contain no toxin, while the peripheral segment was full of it. Furthermore, when the nerve was cut off after it had absorbed and become charged with the toxin, the distal segment retained its charge, while the proximal gradually lost it, and, to supplement this, inoculation of the cut proximal end of a sciatic showed that subsequently the toxin could be demonstrated in the lumbar and then in the dorsal cord.

That the poison ascends in the cord as in the motor nerves was proved by the following experiment: Two guinea-pigs were taken and the spinal cord of one was severed at the level of the second lumbar vertebra. After the wound had healed, the sciatic nerves of each pig were inoculated with the same amount of toxin. The normal pig died speedily with general tetanus, while the other, with its cord cut, survived many days, showing tetanus only in the paralyzed hind legs, while the upper part of the body remained free from tetanic symptoms; death eventually took place apparently from exhaustion. Hence, if only the vital centers of respiration and circulation can be protected, death is at least not imminent. As a further proof of the importance of the motor nerves, it was demonstrated that a very small amount of the poison was sufficient to cause death if the toxin was injected into a motor nerve; a considerably larger dose if injected intravenously, and ten times the fatal intravenous dose was needed to cause death after a subcutaneous injection of the toxin. The length of the incubation period—that is, the time intervening between the inoculation of a motor nerve at any given point and the appearance of symptoms—was found to vary directly with the distance of the point of inoculation from the corresponding spinal ganglia. Inoculation of a purely sensory nerve yielded negative results. The poison apparently could not be taken up to the sensory nerves under natural conditions, but by direct injection into such a nerve the toxin was proved capable of diffusing through it up and down, as in the motor nerves, although more slowly. Whatever amount of toxin could be introduced into a sensory nerve, however, was always arrested in its progress to the cord by the posterior root ganglion. The discovery of this fact led the investigators to try the effect of introducing the poison between the ganglion and the cord, and the result was the discovery of a unique and frightfully painful form of the disease which they aptly called "tetanus dolorosa." The animal died without any of the usual motor symptoms, apparently from exhaustion due to extraordinarily severe paroxysms of pain in the region supplied by the afflicted nerve. The cerebral tetanus produced by direct inoculation of the brain has for some time been known as another peculiar experimental form of the disease.

From the above facts, and because even if the toxin is injected subdurally under proper precautions, there is always the usual incubation period, it follows that the course of the poison is from the point of inoculation by diffusion to the nearest muscle end-apparatus of a motor nerve; at the same time, it is taken up by the lymphatics and passes into the general circulation and capillaries to all the other motor-nerve endings. Thence *it travels centripetally and only in the motor nerves to* the cord and in this upward to the vital centers in the medulla. The more concentrated the poison is at any one point, and the shorter the motor nerves as in facial or head tetanus, the greater is the likelihood of a primary local manifestation of the disease. Such instances are rare, but have been reported, and this must be their explanation.

Experimentally in animals, the characteristic stiffness and spasm generally begin in the region of the subcutaneous or intramuscular inoculation, and thence extend to all the rest of the body. The differences, however, are so slight in the artificially and naturally acquired disease, and the points of correspondence in reported cases so numerous, that results obtained in animals can be directly applied to man.

Nothing has been so clearly proved experimentally as the value of tetanus antitoxin and the generally pessimistic view of this valuable remedy is largely due to faulty technic in its use, and a clear understanding of its disposition in the animal economy should enhance the regard in which it is held, although at the same time it reveals its limitations.

After the injection of tetanus antitoxin subcutaneously, it passes rather slowly with the lymph into the general circulation. The maximum amount being found at the end of from twenty to forty hours. In the capillaries, it mixes with the fluids of the tissues and by these a portion is destroyed. The major part, however, ultimately passes unchanged into the secretions and excretions, the milk, feces and urine and at the end of six days there is left in the body only one-third of the original amount. At the end of three weeks it has entirely disappeared. The nervous system takes up none of the antitoxin and only after massive intravenous injections can even traces of it be found in the cerebrospinal fluid. Subdural injections of antitoxin pass quickly and almost completely into the blood and hence it is evident that its administration by lumbar puncture as ordinarily practiced is of small value.

The amount of antitoxin necessary to neutralize a definite quantity of toxin can be accurately estimated, as can also the lethal dose of toxin for a given animal. If, now, the toxin be administered subcutaneously first, and then be immediately followed by the necessary amount of antitoxin, the animal will show serious symptoms or die. The conditions are improved by reversing the experiment and giving the antitoxin first. In short it has been demonstrated that to protect such an animal the antitoxin must be injected no more than forty nor less than twenty-four hours before administering the toxin. If a longer interval elapses, the dosage of antitoxin must be increased, in other words, it is comparatively rapidly destroyed or excreted. After an intravenous injection of a lethal amount of toxin, the elements of time and quantity of antitoxin are even more apparent, for it has been found that two minutes after the introduction of the poison, double the neutralizing dose of antitoxin must be similarly administered in order to save the animal. After the elapse of eight minutes, ten times that quantity of antitoxin is required, and after ninety minutes the intravenous dosage of antitoxin must be increased to forty times that which was required to neutralize in a test tube the given amount of toxin. Furthermore, if tetanus spores are introduced into the tissues of a guinea-pig, and the development of symptoms awaited before administering the antitoxin, the pig can only occasionally be saved even by very massive doses of antitoxin.[1] *Hence, it is evident that the toxin is absorbed rapidly* and soon passes into the motor nerves, that the antitoxin is absorbed slowly, especially if injected subcutaneously or subdurally, and is quickly excreted or destroyed. It is also incapable of being taken up by the nerves which have a most extraordinary and fatal affinity for the toxin. This is emphasized by the fact that if only a fraction of the subcutaneous lethal dose be injected into the sciatic nerve of a cat no amount of antitoxin, even if it be introduced immediately thereafter into the jugular vein, can save the animal. Therefore, only that portion of the poison which is at the point of infection, and that which has gained access to the blood and lymph can be reached by the antitoxin as ordinarily given. If once a fatal dose of toxin has gained access to the nerves, the outlook would be hopeless were it not for the point suggested by one of the series of experiments published by Meyer and Ransom. In the first place, they introduced a lethal dose of toxin into the jugular vein of a cat, six hours later they exposed both sciatic nerves high up and injected them with antitoxin. The cat died within the usual length of time but both hind legs, the sciatic nerves of which had received the antitoxin, remained entirely free from tetanic manifestations. After this experiment they similarly exposed and injected the right sciatic nerve of a guinea-pig with antitoxin and followed this by inoculation of the subcutaneous tissue about both feet with a lethal dose of toxin. The pig also perished but the right leg, the one in which the sciatic nerve had been filled with antitoxin, remained unaffected by the spasms which attacked the rest of the body. The experiment was repeated in two days, with the same absence of tetanus in the protected limb. One dog died, and the other finally recovered but eventually showed some symptoms in the leg which had at first been artificially protected. In other words, although the antitoxin cannot under natural conditions be taken up by the nerves, it can be operatively introduced into them and so, at least for a time, block the progress toward the cord of the possibly fatal charge of poison within them. Even after the toxin reaches the cord it should be possible similarly to block its progress upward.

Clinically, it has long been known that prophylaxis is the most effectual treatment for tetanus, and this means thorough cleansing and disinfection and bacteriologic examination of all wounds, and if the tetanus bacillus is found the antitoxin should be given immediately and repeated daily until at least two weeks have elapsed from the time of the reception of the infection. After the outbreak of the symptoms, to give antitoxin subcutaneously is useless or so nearly useless as to amount to a waste of good antitoxin, especially if the original focus of infection is not destroyed or removed. Subcutaneously the antitoxin is slowly absorbed and rapidly excreted or destroyed, while the toxin is rapidly taken up and quickly enters the motor nerves, where it is entirely inaccessible to the antitoxin. As therefore only that part of the toxin can be neutralized which is in the blood and tissues outside of the nerves, it follows that the antitoxin should be injected directly into a vein and into the tissues around the infected region. This places the medicament where it can do the most good in the shortest time, and even minutes are precious. Practically, the median basilic vein can be exposed and under proper precautions from 10 to 20 c.c. of antitoxin injected into its interior with an aspirating or large hypodermic syringe. Too little is far more dangerous than too much, as the remedy is entirely harmless and it must be present in considerable quantity when the amount of toxin, as under natural conditions, is unknown.

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[1] See article on "Immunity" in this issue of The Journal.

For this and the subsequent procedures, general anesthesia, preferably from chloroform, is imperative in spite of the danger of asphyxia, from vomiting in the presence of "locked jaws." Furthermore, the chloroform produces at least a temporary relaxation of greater or less duration and seems to that extent, to be beneficial. The subsequent nausea is also generally less than that following ether.

Then, following the suggestion of the experiments detailed above, the motor nerves which supply the region primarily infected should be exposed as near to the cord as possible and each injected by a fine hypodermic syringe with from 5 to 10 or 20 minims of antitoxin. As the usual location of the original wound is in one of the extremities this means a careful dissection of the axilla or base of the thigh. In the arm, all the nerves come together around the axillary artery and it is a comparatively simple procedure to expose first the axillary vein and then to identify the two heads of the median with the ulnar to the inner side and the musculocutaneous to the outer side and a little above, and behind the musculospiral and circumflex nerves. In the leg there is no difficulty in reaching the anterior crural nerve to the outer side of the femoral artery and the sciatic behind in the center just below the gluteal crease. The obturator can be found by flexing and abducting the thigh and making an incision high up in front of the fold produced by the gracilis and adductor magnus. The obturator foramen is felt and the nerve recognized at its upper anterior part in front and behind the adductor brevis. After isolating the nerves, a ligature is passed under each to facilitate its subsequent treatment and identification, and each is repeatedly punctured with the previously prepared hypodermic and enough antitoxin is thus injected into its substance to cause it to swell to three or four times its normal size. The loose ligatures are then left in place with the possible exception of one around the obturator, which is deeply placed and much exposed to infection. From day to day thereafter as the symptoms demand, the nerves can be drawn into sight by these ligatures and the treatment repeated. The wounds are then partially closed and dressed. Such violent manipulation and evident injury of motor nerves may seem unjustifiable, but the experimental facts seem to warrant it, and after many repetitions of the method detailed in the following cases I have never noted even a suspicion of damage or paralysis.

As the poison enters not only the nerves supplying the region primarily infected, but, by passing into the circulation, all the other motor nerves of the body simultaneously, it is evident that local nerve blocking only partially fulfills the indications. Presumably in the case of infection located in one of the limbs, a little more of the poison will gain access by direct transudation, to the local muscle end apparatus and a little earlier than will pass through the circulation to the other nerves and hence the necessity of stopping the local and major charge first. To prevent the lesser charge gaining access to the vital centers, the spinal cord must be similarly blocked. Bearing in mind that death from this disease is ordinarily due to asphyxia from spasm of the respiratory muscles and diaphragm, to arrest of the heart by spasm of the muscle, or to general exhaustion, if the vital centers governing the respiration and circulation are not first sufficiently affected there are two courses open, either injection of the antitoxin into the cauda equina by lumbar puncture or high up into the upper dorsal or lower cervical cord. In lumbar puncture it is necessary to wound one or more of the nerves in the cauda equina, as otherwise the injection is simply a subdural one which quickly passes from the lymph into the blood and can have no effect on the large charge of poison which is on its way up to the cord in the long nerves of the lower extremities. As the cauda equina begins opposite the first lumbar vertebra, a long needle should be inserted and manipulated back and forth until a twitching of one or both legs indicates that the desired nerve lesion has been produced. The injection of the antitoxin has then some prospect of being useful; from 10 to 20 c.c. are thus introduced in and around the wounded nerves. As this is manifestly working in the dark, I have often been tempted to perform a laminectomy in the lumbar region and to inject each nerve directly, as is done in the axilla or groin; but experience has not yet seemed to justify so drastic a procedure.

If, however, cyanosis be present when the patient first comes under observation, life is evidently in imminent danger, and the vital centers of respiration and circulation must be protected at all hazards. As the progress of the toxin is always upward in a centripetal direction through the nerves and cord and never downward, the antitoxin must be placel in the cord as near to the medulla as possible. Hence when the symptoms are urgent, a long hypodermic needle is entered near the median line posteriorly opposite the sixth or seventh cervical spine and passed through the spinal canal until the body of the vertebra is encountered. If a long, pointed needle is employed and is aimed at the center of the canal, one can hardly avoid penetrating the cord at this point, and I have thus repeatedly injected from 20 to 30 minims of antitoxin at a sitting, with absolutely no ill effects and with much apparent benefit; that is, the cyanosis has been relieved and the jaws partially or completely relaxed. The results in this respect have been so noticeable as to prove beyond question, in my mind, the value of the intraneural injections of the serum. I admit the danger of the procedure, involving as it does a hemorrhage into the cord, and hence have only practiced it in seemingly desperate cases. As remarked before, however, no ill effects so far have been encountered, and in at least one of the cases reported it was apparently life-saving.

In addition to the toxin which is in the blood and which has already gained access to the cord and nerves by the circulation and by diffusion, there is the original source of the infection to be treated. This is left to the last in order to avoid the obvious danger of multiple infection. After the intravenous, the local intraneural and the intraspinal injections of antitoxin the wound should be thoroughly cleaned and all foreign matter removed, and immediately the question of amputation arises. Removal of the affected member has fallen into undeserved ill-repute owing, I believe, to the earlier ignorance of the cause and course of the poisoning. In the first place, it is indispensable to destroy entirely all the tetanus bacilli in and around the wound, and for this purpose experience and experiment have proved that the antiseptics most valuable are, in their order of usefulness, strong tincture of iodin, 1-1,000, or even 1-500; solutions of bichlorid of mercury, and 1-30 or stronger solutions of carbolic acid. Iodoform in the shape of iodoform gauze packing is extremely useful owing to its iodin content. It is almost unnecessary to add that extensive contused and lacerated wounds filled with dirt, or with other foreign matter present, are a practically hopeless field for disinfection. The bacilli, in spite of all that can be done, are bound to multiply to a greater or less extent and disinfection with strong antiseptics by producing more necrosis, probably aids rather than hinders their multiplication. Hence, the only logical resource, removing as it does all the bacteria or as many as have not escaped into distant regions, and all the local nerve charge, is amputation as near to the body as possible. In my experience these severe infections have seemed practically hopeless from the outset and so an amputation might be said to be unnecessary, but it is submitted, like intraspinal injections of antitoxin in the cervical cord, as a desperate remedy, which might save some desperate cases.

If the source of infection is a small, more or less easily cleaned wound, the conditions are somewhat different, and experience has demonstrated the success of local treatment, although even in such conditions the question of amputation, preferably high up, should be seriously considered. After thorough local disinfection, supplemented by the swabbing of tincture of iodin into every crevice, the diffusing toxin must not be forgotten, and a plentiful amount of antitoxin must be injected into all the tissues surrounding the wound. Not till all this has been completed and the wounds properly dressed can the patient be put to bed. Then the whole process, including the anesthesia, should be repeated once each succeeding day until the symptoms subside. The intraneural and intraspinal injections can not be omitted, as the antitoxin apparently soon disappears from the points where it is placed in the nerves and the toxin remains and can then resume its progress toward the vital centers. The exhaustion from long-continued muscular spasm, which is one of the causes of death, must also be constantly combated by the usual remedies of quiet, easily assimilable food and the antispasmodics, of which the best seem to be chloral, morphin and the bromids. One case has recently been reported as recovering under the intraspinal administration of cocain and another by the use of curare, and, as in each the treatment was begun by disinfection of the primary wound, it must be assumed that further intoxication was stopped and the alleviation of the spasms (from the poison already in the nerves), and so of the exhaustion, was an important factor in the result. Both drugs are absorbed and exert their effects in a manner so analogous to the tetanus toxin, yet so antithetically, that an experimental investigation of their antidotal properties should be very valuable. In the absence of such exact knowledge, however, their employment is only to be recommended as an adjuvant to the antitoxin to aid in presenting exhaustion, and not as a specific. Curare, it should be stated, is a rather dangerous drug, of uncertain composition and dosage, and each sample should be tested on animals before its administration to man.

The limitations in the treatment of tetanus are, I think, obvious. Some of the cases are hopeless from the outset either because they come under observation too late or because of an overwhelming infection—and it is worth noting that animals are often so inoculated with tetanus that no amount of antitoxin can save them—or because of the location of the infection near to the medulla, as in tetanus hydrophobicus. The fact remains, however, that the antitoxin serum is the natural and best means of combating the disease, and the essential factor in its successful use is the technic of its administration. The following cases are submitted to illustrate its employment.

It would be unwise and unfair from so short a series to expect any vast improvement over the mortality statistics hitherto published, but the fact that the mortality is less than that usually given, which is between 40 and 50 per cent. for all antitoxin cases, is suggestive. The most important fact is that the method of treatment is based on sound experimental proof, and though apparently drastic and more or less dangerous, especially the high intraspinal injections, no ill effects whatever have been noted. A careful perusal of these histories reveals many errors in the technic which is advised, but this was principally due to the fact that the importance of each step was not at first fully appreciated.[2]

CASE 1.[3]—J. H., aged 12 years, was shot in the lower part of the palm of the left hand by a toy pistol on March 17, 1904. He was immediately thereafter treated in some dispensary by the application of a wet dressing, which was changed on March 19 by the family physician, who then cleaned the wound of fragments of "wadding." Nothing abnormal further was noted until April 2, when his mother observed that he moved with some stiffness.

April 3: In the morning he showed marked dorsal rigidity and complained of difficulty in chewing and cramps in the back and legs.

Examination.—In the evening I found him with jaws tightly locked in trismus and the muscles of the back and legs rigid. The opisthotonos position was so pronounced that it was only with difficulty that he was carried in a cab to the hospital.

Treatment.—At 11 p. m., under chloroform anesthesia, the lower end of the left brachial plexus was exposed in the axilla and each nerve trunk, after repeated puncture with a fine hypodermic needle, was injected with m. x-xv of antitoxin, or enough to cause it to swell to triple its natural size. A long needle was then inserted into the spinal canal between the second and third lumbar vertebræ and, after withdrawing about one dram of cerebrospinal fluid, a similar amount of antitoxin was injected. Just previous to this, however, the needle was moved back and forth to wound or to abrade the nerves in the cauda equina. The wound in the palm was next thoroughly disinfected, swabbed with tincture of iodin and packed with iodoform gauze.

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[2] All the facts given above and the references to the literature can be found in the Handbuch der Pathogenen Micro-organisms, Vols. II and IV (Kolle and Wassermann, 1903).

[3] N. Y. Medical Record, May 21, 1904, p. 813.

Course of the Disease.—April 4: Slight improvement was noted. Nevertheless, he was again anesthetized, the wound in the axilla was opened and one of the nerves, probably the median, was injected with antitoxin. The lumbar puncture and injection of one dram of antitoxin was repeated, as was the dressing of the hand, which was swabbed with tincture of iodin. During this day 60 grains of chloral and 120 grains of bromid of soda were given in divided doses. No other treatment followed except daily dressing of the wound in the hand with iodoform gauze packing, and the improvement continued. He was discharged cured on April 23.

Case 2.[4]—J. M., aged 11, received a punctured wound in the sole of the left foot from a rusty nail on April 25, 1904.

May 2: Seven days later at 6 a. m. he complained of stiffness about the jaws and neck and was unable to eat. He was brought to the hospital in the afternoon showing the picture of severe acute tetanus, and was given 20 c.c. of antitoxin subcutaneously, by the house staff. During the night the trismus and general rigidity became worse.

Treatment.—May 3, at 11 a. m., under chloroform anesthesia, I exposed the left anterior crural and sciatic nerves and injected into each from 20 to 30 minims of antitoxin and then two drams by lumbar puncture into the cauda equina. In manipulating the needle to wound these nerves (the legs were made to twitch), there was quite a free flow of blood but no ill results followed. The wound in the foot, which was nearly healed, was laid freely open, disinfected, swabbed with tincture of iodin and packed with iodoform gauze. A culture from this point subsequently showed abundant tetanus bacilli. At the end of the operation there was a noticeable improvement in the relaxation of the masseters and muscles of the back, which was undoubtedly due to the chloroform. During the night following, however, the symptoms returned with severe convulsions.

Course of the Disease.—May 3 I found him slightly cyanotic, with every muscle rigid, and lying on pillows to permit the opisthotonos position. The outlook seemed hopeless, as the temperature had risen to 103 and the pulse to 120-130. Under chloroform, one dram of antitoxin was injected directly into the spinal cord between the second and third dorsal vertebræ, with the intention of protecting at all hazards the respiratory center. The sciatic and anterior crural nerves were also injected as before and the wound in the foot swabbed with tincture of iodin and redressed. Rectal feeding alone was possible during this day. As in the previous case, the chloroform seemed to be of considerable temporary benefit.

May 5: There had been no convulsions during the night, and the rigidity was so much better that liquid food could be taken by mouth. The only treatment on this day consisted in the change of dressings, which was continued daily until discharged.

May 6: The trismus and rigidity had slightly increased over the previous day and, under chloroform, one dram of antitoxin was administered through a lumbar puncture, after previously scratching the nerves enough to cause the legs to twitch.

May 7: There was some improvement, but the lumbar puncture was repeated under chloroform as before.

May 8: From this date until discharge, on May 18, there was steady and rapid improvement and no more antitoxin was given. No sedatives were administered at any period in the treatment, as this was considered a crucial case and it was desired to prove the value of the antitoxin and the technic of its dosage.

Case 3.—W. M., aged 22, received a punctured wound in the left wrist with a cotton hook on July 2, 1904. The wound subsequently showed a little infection but soon healed. Another wound was received from the same hook in the right palm on July 10, which had not healed when he first noticed some stiffness of the jaws and difficulty in eating and walking. July 29, this gradually increased, and he was brought to the hospital on August 10, with marked symptoms of tetanus.

Examination.—The masseters and muscles of the back and legs were rigid. He was unable to sit up in bed. Under chloroform anesthesia, both axillæ were opened and the lower ends of the brachial plexuses exposed, as I was uncertain which wound was the source of the infection. All the nerve trunks were punctured repeatedly with a fine hypodermic needle and each injected thus with 5-10 minims of antitoxin. About 10 c.c. of the antitoxin were then injected around the cicatrix in the left wrist and the nearly healed punctured wound in the right palm. After this, the cicatrix and the wound were freely excised and the raw areas swabbed with tincture of iodin and packed with iodoform gauze.

Course of the Disease.—August 11: The rigidity was less, the patient could take liquid food by mouth, which was impossible the previous day, and from this time on there was a steady, slow improvement until he was discharged cured August 25. No other treatment except the daily dressing of the wounds was practiced except the antitoxin which was administered on August 10.

Case 4.[5]—E. D., aged 5, received a punctured wound in the neighborhood of the right knee from a sliver of wood nine days before admission to the hospital on June 20, 1904.

Examination.—There was marked trismus and opisthotonos, with general convulsive spasms every ten minutes. The first symptoms of trismus had been observed on June 18, or seven days after reception of the injury. The original wound had healed without reaction.

Treatment.—At 10 p. m., under chloroform anesthesia, the right anterior crural and sciatic nerves were exposed by Dr. Schley and each injected with 3 c.c. of antitoxin. Then 10 c.c. were injected into the region of the cauda equina between the second and third lumbar vertebræ, after previously wounding the nerves slightly by manipulation of the needle. Ten c.c. were also given subcutaneously. In the subsequent treatment, moderate doses of chloral and bromids were also administered by rectum.

Course of the Disease.—June 21: Several convulsions occurred during the previous night. The temperature had risen to 103 and the pulse to 120. Chloroform was again given and the anterior crural and sciatic nerves were injected with antitoxin as before.

June 22: Some improvement was noted during the night, but the chloroform and the intraneural injections were repeated.

June 23: The patient seemed to be losing ground so much that frequent inhalations of chloroform were required to allay the convulsions.

June 24: Slight improvement began to appear, although in the afternoon there was a severe convulsion accompanied by cyanosis.

June 25: One severe convulsion was noted; the general rigidity remained nearly unchanged and the intraneural injections were repeated under chloroform anesthesia. Later in the day there was so much improvement that liquid food could be given by mouth.

June 26: The improvement from now on was steady and the patient was eventually discharged cured without further resort to antitoxin. The original wound had healed without reaction and was not disturbed in the whole course of the treatment.

Case 5.—W. W., aged 8, was run over by a cart on April 29, 1905, and received a bad contused wound of the right foot.

May 8, ten days after the injury, trismus was first noted, and in the afternoon there was general rigidity with opisthotonos and some cyanosis.

Treatment.—At 4 p. m., under chloroform, I exposed the right anterior crural, sciatic and obturator nerves, and after passing a ligature under them, injected each with from 10 to 20 minims of antitoxin; one dram was then injected between the second and third lumbar vertebræ, after scratching the nerves enough to cause the legs to twitch. The extensive suppurating wound in the foot, which involved nearly the whole plantar aspect and exposed the os calcis, was made as aseptic as possible, swabbed with tincture of iodin, packed with iodoform gauze, and two drams of antitoxin were injected in and around it. This dressing and local injection around the wound, of antitoxin, was repeated daily. Amputation was advised in this case, but refused. The infection was so extensive that I regarded the case as hopeless, especially when the culture ground could not be removed.

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[4] N. Y. Medical Record, July 2, 1904, p. 12.

[5] Reported by Dr. Schley in N. Y. Medical Record, Oct. 15, 1904, p. 616, from which this is quoted.

Course of the Disease.—May 9: There were several severe convulsions during the night and the condition was evidently worse; as cyanosis was marked, under chloroform, one dram of antitoxin was injected between the sixth and seventh cervical vertebræ, directly into the cord; two drams were then given into the median basillic vein and the intraneural injections into the sciatic and anterior crural nerves were repeated. The latter procedure was much facilitated by the long ligatures which had been left loosely encircling these nerves. Large doses of chloral and bromid were also given throughout this day and until the end, by rectum.

May 10: Considerable improvement was observed; the trismus was so much less that liquid feeding by mouth was possible. There were no convulsions. In the afternoon, by mistake, diphtheria antitoxin was given by lumbar puncture, intravenously, intraneurally and around the wound, with disastrous results, for the error was not discovered till the next day, and the improvement noted on May 10 had all disappeared, the temperature had risen to 104, the pulse to 150-160, and convulsions were reappearing.

May 11: The anesthesia and the numerous injections, this time with the proper antitoxin, were all repeated, including the puncture of the cervical cord.

May 12: The convulsions had decreased in severity and frequency, but the rigidity was marked and the picture was one of exhaustion, as the temperature was rising and the pulse almost imperceptible.

May 13: Death occurred during the morning.

Remarks.—I believe this patient might have been saved, as on May 10 the improvement was very noticeable, but the substitution of diphtheria for tetanus antitoxin was fatal. The error was due to the label, which was simply "antitoxin." I was also to blame in that I did not give an intravenous injection of tetanus antitoxin until the second day of the treatment, but trusted to the intraneural and local injection.

The following two cases I regard as instances of overwhelming infection which can not be saved by any means in our power.

Case 6.—P. F., aged 41, received an extensive crushing wound of the right forearm on August 22, 1904, exposing the muscles and tendons from nearly the elbow to the wrist. A heavy stone had fallen on the arm, crushing it in a muddy street. September 2, or eleven days after the injury, trismus was first noted, and in the afternoon he was brought to the hospital with every symptom of severe tetanus.

Treatment.—Under chloroform, the right brachial plexus was exposed in the axilla and each nerve trunk injected with about 10 minims of antitoxin; 10 c.c. were then injected between the second and third lumbar vertebræ into the neighborhood of the cauda equina, after scratching these nerves sufficiently with the needle to cause the legs to twitch. Amputation of the arm was refused and so the best disinfection possible under the circumstances was attempted in the extensive and dirty wound, which was then swabbed throughout with tincture of iodin.

Course of the Disease.—Convulsions every few minutes with constant opisthotonos and considerable cyanosis were noted as increasing. Under chloroform, a long needle was introduced between the second and third dorsal vertebræ and 5 c.c of antitoxin were injected into the substance of the cord. The intraneural injections in the axilla were repeated, as was the dressing of the wound. For a few hours that afternoon, it is worthy of remark that the trismus seemed much improved but all the symptoms increased in severity during the evening and death occurred quite suddenly, apparently from spasm of the heart at 11 p. m.

Case 7.—M. R., aged 49, sustained a severe crushing and laceration of the hand with compound fractures of two metacarpal bones by being run over in a dirty street on May 3, 1905. May, 9 he first complained of some difficulty in swallowing, indicated by signs, but as he spoke no English and nothing abnormal was apparent, the condition was not diagnosed until the following day.

May 10. The symptoms of severe tetanus were very evident.

Treatment.—Under chloroform, the axilla was opened and the brachial plexus injected with antitoxin, ʒii were given into the median basilic vein and ʒii, by lumbar puncture after scratching the nerves, in the cauda equina. The hand was amputated through the middle of the forearm. Some improvement occurred during the afternoon, but at 8 a. m. on May 11, having passed a quiet night, he had a severe convulsion and died suddenly without cyanosis and evidently from cardiac spasm.

NEWER AIDS TO DIAGNOSIS IN DISEASES OF THE URINARY TRACT.*

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The urinary tract may be subdivided into four parts, namely, the kidneys or secreting part, the ureters or conducting part, the bladder or receptacle, and the urethra with its accessories in the male.

Each of these parts may be the subject of pathologic changes and at times it may be very difficult or even impossible from the symptoms alone to determine to which part or parts the disease is confined.

The mere presence of pus or of blood in the urine affords no evidence as to its origin, and when the symptoms do not indicate the origin some means must be employed which will enable one to investigate each portion of the urinary tract separately.

A number of ingenious devices have been invented recently by the use of which one is enabled to obtain information of the greatest importance concerning the condition of the various portions of the urinary tract.

Among these may be mentioned, first, the catheterizing cystoscopes and the urine segregators. By the use of these instruments one is enabled to collect the urine from each kidney separately and thus to differentiate the diseases of the upper urinary tract, or kidneys and ureters, from those of the bladder, urethra, etc. They also enable one to determine whether there are two kidneys present or only one, and if two whether the disease is confined to one or involves both, and, if the latter, the extent of the involvement.

Each of these methods, namely, ureteral catheterization and segregation, has its advantages and a proper selection of the method to suit each particular case is necessary in order that the best results may be obtained.

Ureteral catheterization is suitable in a greater variety of cases than is the segregator, for the reason that it possesses many advantages which are independent of the mere collection of the urine.

If the catheter pass without obstruction as far as the kidney it indicates that the ureter is pervious. If it meet with an obstruction, the distance which it enters will locate exactly the seat of the obstacle.

The use of the catheter or bougie is of great aid in the diagnosis of ureteral stones. Notwithstanding the importance of the *x*-ray in the diagnosis of this condition, a number of errors of interpretation of small shadows in the pelvis have been made which might have been avoided had ureteral sounding been practiced.

Again, the catheter may be introduced as far as the pelvis of the kidney and may drain a hydronephrosis or a pyonephrosis, the amount of fluid not only indicating the condition present, but also approximately the size of the cavity drained.

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Contamination of the urine with pathologic products from the ureter may be prevented by introducing the tip of the catheter as far as the pelvis of the kidney. When it is desired to collect the urine for several hours or more catheterization is the only method applicable.

It should not be concluded that ureteral catheterization is a simple and perfect method. Aside from the fact that in a small percentage of cases the catheter can not be introduced, there are other disadvantages. For example, the introduction of the catheter often causes a slight hemorrhage which may contaminate the urine; or when left in place a long time the catheter may cause a severe ureteral colic requiring large doses of morphin to control the pain. The flow of urine may cease suddenly or gradually owing to the lumen of the catheter becoming occluded or to the production of a reflex temporary anuria.

While a catheter is in the ureter on one side, it is never safe to judge of the condition of the kidney on the uncatheterized side by the character of the urine taken from the bladder, because it may not only be contaminated by products from the bladder, but also by products from the catheterized kidney, as a certain amount of urine flows around the catheter and the urine from the bladder to a certain extent is mixed urine.

While the possibility of infecting a healthy ureter or kidney in the presence of an infected bladder can not be denied, still it must be acknowledged that this accident has rarely occurred.

The fact that such an unfortunate accident may happen, however, demands of one the greatest care and circumspection in catheterizing a patient under such circumstances, and makes it incumbent on one to catheterize only when the desired information can not be obtained in any other manner.

The cost of catheterizing instruments and the great skill and dexterity, acquired only by long practice, necessary to use them must unavoidably restrict the use of this exceedingly valuable aid to diagnosis to the hands of comparatively few.

The urine segregator finds a more limited field of usefulness than does the ureteral catheter. There are two kinds of segregators—the Harris instrument, which raises the posterior wall of the bladder into a longitudinal fold, thus forming a watershed between the ureteral openings, and those which attempt to form a water-tight septum within the bladder, such as Neumann's, Cathelin's, Luys's, etc.

Theoretically the latter are less reliable than the former, for the reason that it is very difficult to form a water-tight joint by pressing a smooth edge against a mucous membrane naturally thrown into folds (such as the bladder wall when that viscus is empty), and in practice this is found to be true.

My experience is based on the use of the Harris instrument. In order that the results from the use of the segregator may be satisfactory and reliable, the cases in which it is used must be *properly* selected.

For instance, those cases are not suitable for the segregator in which the ureteral openings are abnormally close together or so arranged that an efficient septum can not be raised between them; or cases in which the base of the bladder is so thick or distorted that a suitable watershed can not be made; or cases in which the bladder is too small or contracted to permit the opening of the instrument; or cases in which there are intravesical growths which interfere with the proper working of the instrument; or cases of irregular or excessive enlargement of the prostate. Some of these conditions render catheterization of the ureters impossible as well.

The most satisfactory results are obtained with the segregator in diseases of the kidneys when it is desirable to know whether the affection is unilateral or bilateral; when one wishes to learn whether certain pathologic products come from the kidneys or from the bladder, and when one wishes to determine the amount of work done by each organ. In such cases the results are very satisfactory and the method has the advantage over catheterization in that it requires much less practice and skill.

By this it is not intended to convey the idea that segregation is a very simple procedure; on the contrary, it requires the most careful attention to the minutest details, and I am convinced that the reasons why some have failed at times in the use of the instrument are that an unsuitable case was selected; or that some of the details were omitted; or that too much was expected of the instrument. It should also be remembered that an instrument is always only an inanimate mechanical device which, when properly used, furnishes certain data, but a correct interpretation of the data depends entirely on the knowledge and experience of the operator.

As has just been stated, there are a number of conditions unsuitable for segregation and some in which catheterization is also impossible. It is necessary to recognize these conditions in order to make a suitable selection of the method of procedure in the case in hand, and to do this a cystoscopic examination is frequently absolutely essential.

In every case in which there is the slightest doubt as to the condition of the bladder, a cystoscopic examination should precede an attempt to segregate the urines. So important is this, in my opinion, that I look on a cystoscopic examination as the keystone of the diagnostic arch in diseases of the urinary tract. It is often truly remarkable the amount of information an expert at times will gather not only in regard to the involvement of the kidneys, but of the side affected and approximately of the relative amount of work done by each kidney by a simple cystoscopic examination. I feel certain that any one familiar with its use would unhesitatingly choose the cystoscope as the most valuable of all instruments of diagnosis in this line of work.

Having collected the urine by one or the other method the next question to determine is the functional activity of the kidneys both combined and separately. The recent attempt to explain the secretion of urine entirely by osmology has not met with general acceptance, and the cellular activity theory of Heidenhain is still necessary to a satisfactory explanation, although osmotic tension is undoubtedly an important factor. Such being the case, the amount of solids eliminated with the urine must represent the functional activity of the kidneys.

Up to quite recent times dependence was placed on the specific gravity and on chemical analysis to determine the amount of solids present in the urine, but recently another method has been introduced. It has been known for a century or more that the freezing point of a solution of any substance is lower than that of the solvent, but it is only during the past few years that the laws of this phenomenon have been known. It is now known that the freezing point of a liquid bears a direct ratio to the number of molecules held in solution.

Koranyi was the first to make use of this fact as a means of determining the amount of solids held in solution in the urine, blood, etc., and the method has since come into more extensive clinical use under the term cryoscopy. The technic of the procedure need not be described here. The real value of cryoscopy above that of other methods when applied to the urine is questionable.

Casper and Richter,[1] however, claim that it is practically the only method of any value in determining the total solids of the urine, and, therefore, the amount of work done by the kidneys, and would have us believe that the estimation of the percentage of urea, chlorids, etc., is of no significance. Their argument is that the amount of nitrogen containing substances and of chlorids in the urine may vary so widely under varying conditions of diet, etc., even in health, that their estimation is without practical significance. These substances, however, form more than 85 per cent. of the total solids of the urine, and if their estimation by one method is of no significance surely their estimation by another method is equally without value.

Cryoscopy is but another method of estimating the total solids of the urine, for the freezing point is an index of the number of molecules in solution. Cryoscopy when applied to a single specimen of urine is of no more value than is the specific gravity of the same specimen. In fact, as Clowes[2] says: "On comparing the freezing point directly with the specific gravity a constant relationship is found to obtain which only varies within such narrow limits as almost to fall within the range of experimental error."

Each 0.01 of the decimal of the specific gravity of urines depresses the freezing point 0.75 C. Consequently, if the decimal part of the specific gravity be multiplied by the constant 75, the freezing point will be obtained. This applies practically to all conditions except when sugar is present or albumin in considerable amount. In order to be able to attach any value to the amount of solids contained in a given specimen of urine, however, one must take into consideration the factors, time and the body weight of the patient. It is very interesting to note how the product of these three factors averages up from hour to hour under ordinary circumstances. The amount of solids in a specimen of mixed urines is not of so much diagnostic value as is a marked difference between the amounts found in the separately collected urines. It is here, again, that the value of ureteral catheterization or segregation becomes evident, for under normal conditions each kidney secretes approximately the same amount of urinary solids in a given time. If there be a marked diminution in the percentage of solids found in the urine from one kidney, when compared with the percentage of solids found in the urine from the opposite kidney, it is positive evidence of an abnormal kidney.

One can not tell, however, from a determination of the percentage of solids alone whether or not the combined work of the two kidneys is sufficient. If by renal insufficiency is meant the failure to remove from the body all of the excrementitious substances which normally should be eliminated by those organs, then renal insufficiency, except it be of high degree, can not be determined simply by an examination of the urine, because it is impossible to know how much material has been brought to the kidneys for elimination.

We, therefore, turn from the urine back to the body to determine, if possible, whether any of the excrementitious substances have been retained. Evidence of such retention is sought along two lines: 1. Symptoms due to the substances retained. 2. The presence of such substances in the body fluids in increased amounts as determined by physiochemics.

It is unnecessary to mention all the symptoms of imperfect elimination, but attention is particularly directed to increased arterial tension as shown by the sphygmomanometer.

Under the second heading we have to consider cryoscopy as applied to the blood. The freezing point of the blood in health is found not to vary materially from —0.56 C. This uniform point is maintained by the kidneys acting as a regulator of the osmotic tension of the blood. When the kidneys fail to eliminate properly, or, in other words, become insufficient, the retained substances increase the osmotic tension of the blood, which is made manifest by a lowering of its freezing point.

Based on a somewhat limited number of observations, it is assumed that a lowering of the freezing point of the blood to or below —0.60 C. is an indication of retained excrementitious products, or, in other words, of kidney insufficiency.

Were kidney activity the only factor involved in maintaining the normal freezing point of the blood, the problem might prove to be a simple one, but such is far from being the case. Some of the factors influencing the freezing point of the blood are unknown, others are but slightly known, but that the freezing point varies considerably is certain. For instance, in the anemias, or when the percentage of hemoglobin is diminished, the freezing point of the blood is found to be much higher—0.52 or more.

If 0.04 of a degree is sufficient to mark the dividing line between normal blood and that of renal insufficiency, and if the anemias can raise the freezing point 0.04 or 0.06 of a degree, it is easy to see that marked renal insufficiency may be associated with anemia, and the blood still have a normal freezing point or one even above normal.

This was well shown in one of my cases. A young woman had had but one secreting kidney for some time, and that one badly involved, as it furnished but a small amount of albuminous urine containing numerous casts and blood cells. She was in an extremely low condition, yet the blood froze at —0.53 C. There was a high degree of anemia, 2¼ million reds and 40 per cent. hemoglobin.

On the other hand, the freezing point of the blood may be found as low as —0.60 C. or lower with normal kidneys in diseases of the lungs or heart, in which oxidation is below normal; in some of the fevers; in malaria and in diabetes (Bouchard).

From this it follows that until we know the influence of other factors on the freezing point of the blood so as to make the necessary corrections therefor, we are unable to affirm that there is renal insufficiency on the results of cryoscopy of the blood alone.

In order that reliable deductions in regard to renal sufficiency or insufficiency may be made from cryoscopy of both the urine and the blood, it is necessary to know concerning the former the amount secreted in a given time, together with the weight and general diet of the patient, and concerning the latter the amount of hemoglobin present and such other factors as may influence the freezing point.

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[1] Functional Diagnosis of Kidney Disease. 1903.

[2] Amer. Jour. of Physiology. 1903. vol. ix. No. 5.

When cryoscopy is applied in a differential sense to the separate urines, it becomes of great value in determining the amount of work done by each kidney.

The use of phloridzin as a test of renal activity was first employed by Klemperer. As is well known, phloridzin, when injected subcutaneously, produces a temporary glycosuria, and the amount of sugar eliminated by each kidney depends on the amount of active parenchyma possessed by the kidney.

Ureteral catheterization or segregation, therefore, must be used in connection with the phloridzin test, for this test becomes of value only when the amount of sugar contained in the separate urines is compared. When used in this manner the test has some value. The methylene blue test is purposely omitted, as its value is probably not great. The value of the x-ray in the diagnosis of renal and ureteral calculi has become firmly established and need only be mentioned here.

In conclusion, then, the newer aids to diagnosis in diseases of the urinary tract may be arranged in the following order, according to their value:

1. The cystoscope.
2. Ureteral catheterization or segregation with comparative analyses of the separate urines.
3. The x-ray.
4. The phloridzin test.
5. Comparative cryoscopy of the separate urines.
6. Cryoscopy of the blood with the necessary corrections made.

NEURASTHENIA.*

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WINSTON, N. C.

Neurasthenia is a rather comprehensive term derived from the Greek "neuron," nerve, and "asthenia," exhaustion or weakness, and covers a variety of functional disturbances of the nervous system, with great irritation and lowered vitality.

It is due to a variety of causes, chief among which are strenuous life, excesses of various kinds, overwork and worry. Neurasthenia, also, is often a result of other diseases, such as influenza, typhoid, syphilis, alcoholism or chronic narcotism, surgical operations, anemia, shock, injuries, autointoxication, impaired metabolism, and in women menstrual or other troubles of the generative organs, such as prolapsus, lacerations, the menopause, etc. In males, prostatitis and masturbation are causative factors. Most authors acknowledge that heredity plays an important rôle by endowing the individual with a neuropathic tendency, and point to the progeny of tubercular, alcoholic or syphilitic parents as proof. There is a close relationship between neurasthenia and the sexual function. Neurasthenia usually occurs between the ages of 15 and 45.

SYMPTOMS.

Great fatigue—mental and physical—occasioned by the least exertion of body or mind, general irritability of the whole nervous system, with vagaries of any of the special senses and intractable insomnia, are the more pronounced symptoms. The mind is irritable and apprehensive and there is loss of memory. Curious and interesting mental perversions are frequent, and melancholia is often pronounced.

The reflexes are heightened, and muscular tremors in the extremities are seen. The spine is nearly always sensitive, and backache is a persistent symptom. The urinary secretion is generally increased, the fluid being of a low specific gravity. There may be obstinate constipation, or a watery diarrhea. Exhaustive sweats occur and there is usually a coldness of the hands and feet, sometimes a subnormal temperature.

Tachycardia is a prominent symptom, and headaches are common. Anorexia is often pronounced. Hyperesthesia of various parts of the body often occurs, and an interesting symptom, seen sometimes, is severe pain in the region of the appendix simulating appendicitis. A sense of suffocation, throbbing of the arteries and vertigo are common symptoms. Vision is usually impaired. There is more or less sexual impotence.

PATHOLOGY.

There is a starvation of the nerve cells, due to deficient metabolism, with an accumulation of the waste products of the body, which enter the circulating medium, causing an autointoxication, and irritation of the cortex, and through the nervous system an inhibition, or perversion, of the functions of various organs.

The body secretions are altered, the kidneys rarely throw off the solids like they should and uric acid accumulates and adds to the irritability of the already quivering nerves.

The nutrition of the whole body is usually greatly impaired. There is evidently deficient oxidation—a point which should be remembered in the treatment. The absorption of toxins from the intestinal canal—caused by changes in the digestive juices, by imperfect digestion, fermentation and by bacteria—constantly takes place, and is the chief cause in perpetuating the trouble.

One should remember, in studying functional nervous troubles, that severe mental strain, grief, great worry, or marked depression will alter or inhibit the secretions of a number of the organs of the human body.

Close study and clinical observation have led me to believe that the primary or essential causative factors in hysteria, neurasthenia and incipient insanity are closely allied and correlated.

PROGNOSIS.

While these cases are exceedingly hard to treat, still, with tact, persistence and careful, thorough treatment, and where there is no pronounced hereditary taint, the prognosis is usually good.

TREATMENT.

First of all treat and remove the cause; then with nutrition rebuild the impoverished and wasted nerve cells, and induce to activity all the various functionating cells of the body. Yet, treatment must not only be of the body, but of the patient's mind as well. This may partly be accomplished by pleasant surroundings, by cheerful companionship, by music and by out-door games, drives and other diversions, as the patient improves.

It is well to remember that in this disease we have more or less degenerative changes occurring in the nerve cells, admittedly due to irritation and starvation —no matter what the primary cause may have been—and a loss of tonus, with a perversion of certain functionating cells.

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* Read before N. C. Medical Society, May 23, 1905.

Just what changes take place in the internal secretions, or the rôle they play in this trouble, is not known. We do know, however, that the whole human economy becomes erratic, and that there is apparently a pathologic reciprocity between the sensitive brain and the whole perverted and diseased digestive tract.

Physical exercise, or work, is necessary to the proper performance of the functions of the body—a fact that escapes most people—as it increases respiration, circulation, oxidation and elimination; hence, exercise, graduated from passive to the most active, is of the utmost importance in the treatment of neurasthenia.

That the waves of sunlight have a powerful curative influence in the treatment of disease, is recognized; sunlight should be used in the treatment of all cases of neurasthenia—sun-baths being especially beneficial. As soon as possible, patients should be kept in the open air, where the oxygen, so necessary, may be obtained in sufficient quantities.

The patient must make every effort to get well, for this is a disease where self-help is of the utmost value.

Cases due to alcoholism or chronic narcotism should be treated for those habits and their baneful influence removed. In women where the disease is due to lacerations, malpositions, etc., surgical intervention should be insisted on, as a cure is impossible so long as the primary cause exists.

Persons who have suffered with neurasthenia should for some time live the "simple life," and avoid the rush, noise and worry incident to city life; should be careful and moderate in their diet, should avoid excesses of any kind, should have regular habits, and should take plenty of exercise in the open.

The patient should have sleep—and plenty of it. At the beginning of the treatment he must have absolute rest—mental and physical. Massage in the morning, followed by a sponge bath and an alcohol rub, are very invigorating and should be employed. Later, as the patient improves, he should be given the cold douche. Electricity in the form of the static or mild faradic current, applied particularly over the spine, soothes the nerves and aids the cure by stimulating cellular activity.

Weir Mitchell's system of treatment may be used in the worst cases. High irrigation of the colon is useful in suitable cases. Both the hot and cold pack are very beneficial, used according to indications; the hot pack being one of our best remedies for the intractable insomnia which is present in these cases.

As hypernutrition is an end sought for, the patient should be fed often of easily digested, or predigested liquid food. Milk, egg albumin, meat soups, etc., should be used at the beginning, followed by more solid food as the digestion and general condition improve. Fruit juices are also of much benefit.

All the eliminating organs must be kept active by appropriate remedies. This is one disease where suggestion—either simple or hypnotic—often gives most brilliant results; but it must be used tactfully.

A mild but invigorating climate, change of scenery, sea baths, or a sea voyage are all of great utility in the treatment of neurasthenia.

As to drugs, I find the glycerophosphate of calcium and strychnia nitrate to be the best builders, while the compound syrup of hypophosphites is a close second. I give the glycerophosphate in 3 grain doses.

It is well to give a good mercurial purge at the beginning of the treatment, and the bowels afterward should be kept open by laxatives. Phosphate of soda and cascara are excellent for that purpose. Where there is much gastric irritation or catarrh, lavage with the stomach tube should be employed. The nitrate of silver pill (1/8 grain) may be used for the same trouble. Iron and arsenic may be given with benefit—the peptonated preparations of iron being best.

Salicylate of soda, or some of the laxative lithia salts may be used to eliminate the uric acid and to relieve pain. When necessary hypnotics may be employed, such as the ethyl-menthyl-sulfone compounds.

Patience and perseverence are necessary to obtain results. I may add that I have found the sulphocarbolates and creosote to give efficient service in the fermentation and diarrhea incident to this disease.

APPENDICITIS IN TRAINED NURSES.

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DENVER.

The great frequency of this disease among the pupils of the training school of the Denver City and County Hospital has attracted my attention, as well as that of other members of the staff, for some years. I have therefore collected the notes of 10 cases occurring in the past four years, and all operated on successfully by Drs. Freeman, Fleming, Craig, Van Meter, Bagot and Lyman. Nine of these cases were under my care, as far as diagnosis and the medical treatment were concerned, the remaining one under that of Dr. Henry Sewall. Several trained nurses came from outside the hospital for operation for appendicitis during this interval, but, not belonging to the school, they do not concern us at present. At least three mild cases, presumably positive as to diagnosis, but either refusing or delaying operation, are also omitted from consideration in order that we may deal only with completed cases in this study. Meanwhile, I have recommended operation on two trained nurses from other cities, who were successfully operated on elsewhere, these likewise being omitted from our study. A single case recorded, after several attacks while in the school, returned just after graduation for an interval operation, and is included in the statistics. In order to broaden the scope of our inquiry, I have obtained details of four cases operated on at St. Joseph's Hospital, but one of whom I saw, and of three cases at St. Luke's Hospital. Dr. H. G. Wetherill has furnished data of the only case at the Woman's Hospital. At Mercy Sanitarium no case has occurred among thirty-three nurses.. In one nurse, aged 38 years, a widow, on whom Dr. Fleming operated for removal of the uterus and tubes, the appendix was found adherent and inflamed by contiguity, but this was in no proper sense a case of appendicitis from our point of view. But two years are covered in the records of the four hospitals last mentioned.

We have here, then, *a total of 18 cases of appendicitis* among the pupils of our five training schools, the total number of nurses during the time under consideration being 296. Thus a percentage of 6.08 have been operated on, while a considerable additional number have had mild attacks of the disease. Although the total number of nurses in all the hospitals is given, I make no pretense that the percentage of cases stated is an average for that number of nurses. The average number of nurses present at any one time in the five schools is 140, but constant changes take place in the personnel.

I think there can be no possible escape from the conviction, after a consideration of all that we have thus far presented, that appendicitis is extremely common in the pupils of training schools, and among trained nurses in general. It is of interest to study why so many cases occur, and why so many come to the operating table.

The average age of the eighteen nurses was 23½ years. They averaged to have been in training about 14 months at the time of operation. Six were operated on at once with the beginning of the first attack, one two weeks after the first attack, four on the outbreak of the second attack, one after the second attack, three at the beginning of the third attack, or a later one, and three after three or more attacks. Thus thirteen were operated on at the beginning of an attack, and five were interval operations.

In thirteen of the cases the usual appearances of chronic appendicitis were found, clubbed, bent or thickened organs, generally. Strictures were noted in four, concretions in five. Acute inflammation was superadded in all of these, excepting the five interval cases. Aucte inflammation was found alone in the remainder of the list, gangrene being present twice. One patient, whom I did not see, broke out with measles as she left the table, and the appendix showed much redness and swelling, leading the operators to consider it a case of eruptive disease manifested internally as well as externally. One case under Dr. Devlins' care, and operated on by Dr. Bagot, developed typhoid fever immediately after operation. It was one of those in which in the beginning it is impossible to state whether the disease is appendicitis or typhoid.[1]

Every case recovered with a practically perfect result. In one acute case, where the beginning was complicated by painful menstruation, operation was delayed until thirty-six hours had passed and gangrene was already present. I erred in underestimating the severity of this case, and we were anxious for a day or two because of the extent of the infection, although recovery was but little delayed.

I can only offer theories as to the cause of the frequency of this disease in nurses, and shall be ready to accept any new evidence brought forward.

Doubtless most pupils in training schools are on their feet vastly more than before entrance, for many come from the school or the home, where there is no such amount of standing and walking. Constipation is certainly almost the rule among the pupils and it may be a factor. A rather monotonous diet, complained of by nurses at times, may promote this trouble.

The stooping posture while at work in making beds, attending to and bathing patients, especially when using the tub bath for typhoid, is doubtless to be considered in the etiology of the disease. Traumatism of the already diseased appendix may occur here through action of the psoas muscle as easily as in riding the bicycle or other similar exercise; we recognize the occasional dependence of the disease in the male on some such exertion.

But the single greatest factor we have yet to mention, I believe. Doubtless many people in other walks of life have worse attacks than many of these for which the nurses were operated on, and recover, to go on for years, either immune or suffering from recurring attacks. The nurse, however, like the physician, on the alert for trouble in the right flank, recognizes the attack at once, realizes its danger, sees a physician at once, and, as in most of these cases, is operated on immediately rather than go through an attack of more or less doubtful outcome.

In my opinion, the results in these cases are as nearly ideal as we can hope to obtain, chiefly owing to early diagnosis and to prompt and skillful intervention.

I do not doubt the possibility of almost equally good results in any large series of cases, if all of the elements to be considered were under the control of the physician. If every case could be seen in the first few hours we should gain the first point. This will be impossible until the laity realize that abdominal pain, even though apparently trivial, should be the signal for calling the physician immediately. If he makes a prompt diagnosis and calls efficient surgical aid, we should gain the second point. In order to take full advantage of it, however, we must assume sufficient confidence on the part of the patient in her advisers to lead to the acceptance of early operation if advised.

I believe there is no way in which we may be of more use to those coming under our care than in keeping before them the tremendous advantage of early diagnosis, and if necessary, prompt operation in cases such as we have considered. The mortality rate could be practically wiped out if we could only have such favorable conditions as we find in the average training school for nurses.

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[1] See article by C. G. Cumston, "The Clinical Aspects and Differential Diagnosis of Appendicitis and Typhoid Fever," Amer. Jour. Med. Sci., May, 1905.

THE RELIEF OF UREMIC HEMIPLEGIA AND OTHER UREMIC STATES BY LOWERING INTRACRANIAL PRESSURE.

TEN CASES.

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In a previous communication[1] were published the results of lumbar puncture and drainage of the cerebrospinal canal as evidenced by three suggestive but eventually fatal cases. My conclusions, as stated at that time and based on the experience of these cases, were essentially as follows:

1. Probably several toxins exert an influence in uremia at different times and in different cases.

2. Other portions of the brain than the cortex are also affected by the causal influence in uremia.

3. Intracranial pressure is usually in evidence, either independently or in conjunction with toxic irritation and tissue destruction.

4. In cases in which the intracranial pressure is the main factor, lumbar puncture of itself may save life; it should constitute one of the routine measures in the treatment of uremia.

5. Transfusion of normal salt solution, except in cases presenting anuria or a markedly diminished secretion, is contraindicated.

6. Drainage of the spinal canal will not cure purely toxic cases.

Other workers in the Philadelphia Hospital at the time of the publication of the former paper were so discouraged with their unfortunate results as to frown on the procedure and to prevent its further employment in their wards. With this knowledge as a drawback my own first, partial, but highly satisfactory, results were obtained. It is because I have gradually convinced myself that the experience of those who have failed to obtain successful results with lumbar puncture in uremia has been due to a series of unfavorable coincidences, and because I have since demonstrated with what seems to me certainty, and by means of an unusually rich series of cases, the value of the procedure, that I have ventured to place my results before the profession for criticism.

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[1] THE JOURNAL A. M. A., Oct. 8, 1904.

It is my intention in this paper to omit, at least in its beginning, all primary reference to any one toxin as a causative factor, assuming at once that a toxin or toxins are present in every case of uremia, whether playing a prominent part or filling a minor rôle.

That Conclusion 2, with regard to the involvement of portions of the brain other than the cortex, has been amply proved will also be taken for granted: (1) because of clinical evidence cited in the previous paper; (2) on the ground of the autopsy findings in the brain in Case 3 of the previous series; (3) based also on Weisenberg's discovery of pathologic changes in the brain tissue even when macroscopic lesions were absent; (4) and, still more positively, on the postmortem dilatation of the lateral ventricles noted in every case of uremia that has come to autopsy following the antemortem removal of excessive quantities of cerebrospinal fluid.

There remain for active discussion, however, three important considerations:

1. To what extent does intracranial pressure influence the occasional case which responds favorably to spinal drainage?
2. To what extent does it influence the average uremia?
3. What influence, if any, will relief of intracranial and intravascular tension exert on an assumed dominant toxemia?

Before proceeding to the discussion of these questions it will be interesting and instructive to outline briefly the clinical pictures on which this subsequent study has rested, constituting, as the cases do, two instances of uremic coma with convulsions, one of simple uremic coma, two of uremic hemiplegia, convulsions and amaurosis, and one of severe uremic asthma. Of these cases, two patients (representing three instances of uremic seizure treated by spinal drainage) are still alive at the time of writing. Only one patient considered in this paper died before a sufficient interval had elapsed to demonstrate the value of the measure. Nearly all promptly recovered, at least for the time being, from the uremic attack.

Case 1.—J. C., white, male, aged 82; an instance of uremic coma and convulsions, was admitted to the wards of the Philadelphia Hospital on Oct. 5, 1904.

Examination.—He was greatly exhausted, and showed considerable dyspnea due to a marked cardiac dilatation and to congestion of both pulmonary bases. The radial and temporal arteries were calcified and beaded, there was marked accentuation and a metallic clang of the second aortic sound, and at the apex there was a systolic murmur, presumably of a relative mitral insufficiency. The legs, penis, and scrotum were markedly edematous. The urine contained large quantities of albumin, and many hyalin and hyalogranular casts.

Course of the Disease.—A few days after admission, his edema had entirely disappeared, but he began to complain of headaches, vomited nearly all his food, his breath was decidedly urinous, and coma gradually supervened. On the same day there occurred a general uremic convulsion, and two attempts at venesection proved unsuccessful, the veins collapsing as soon as opened.

Treatment and Result.—Lumbar puncture was performed, the fluid spurting nearly an inch from the cannula. During the operation, a second general convulsion occurred. Slightly over two ounces of clear fluid was withdrawn, the flow then ceasing. At once the pulse became less angry, and the second aortic sound became less active and less metallic. Within a brief half hour the patient was fully conscious and talking to the nurse in attendance. He knew nothing of the lumbar puncture. When seen by me on the following morning, his mind was clear, the headache was gone, the urinous odor had disappeared from his breath, and he expressed himself as feeling "pretty well." There were no further convulsions, no return of the coma, and indeed no sign suggestive of uremia. The urine gradually showed less albumin and less microscopic sediment.

Subsequent History.—On Nov. 7, 1904, he sat up in a chair, but almost collapsed, and was replaced in bed. From that day on, his physical failure was gradual, though his mind was invariably clear. He lived until November 30, fifty-six days after the uremic attack, and then died of asthenia.

Autopsy Findings.—Arteries were found to be sclerotic and calcareous over the entire body. There was marked emphysema of the lungs, covering a large dilatation of the ascending aorta (not aneurismal). The cardiac valves were fairly normal; there was no gross valvular lesion, but there was marked cardiac dilatation. Both kidneys showed a high grade interstitial nephritis, and a subacute inflammation, with considerable fatty change. The brain externally appeared normal. Both lateral ventricles were enormously distended, so as to hold easily an ounce of fluid each, though containing at the time only about one dram. No hemorrhage was found, and no gross destructive lesion present. The brain tissue did not appear to be distinctly edematous.

Case 2.—T. F. M., white, male, aged 36, an instance of uremic coma and convulsions, was admitted to the Philadelphia Hospital on Nov. 6, 1904, from the police patrol.

Examination.—He was completely comatose when admitted. His urine, drawn by catheter, contained nearly 50 per cent. albumin, by volume, and many granular casts. His pupils were unequal, the right larger than the left, but both were dilated. The respiration was stertorous.

Course of the Disease.—He could be aroused, but relapsed at once into stupor. He was purged and given a hot pack, and following the latter his temperature rose to 104° F. He then had two severe general convulsions at short intervals, and later a third. Nystagmus appeared, and coma became profound.

Treatment and Result.—Lumbar puncture was then performed by the resident physician, and about one ounce of clear cerebrospinal fluid was withdrawn. Two hours later, the patient could be easily aroused, and seemed markedly improved. Venesection was then done, six ounces of blood being extracted in the hope of further improvement. Unfortunately, as it afterward appeared, one and one-half pints of normal salt solution were introduced into a vein, and within a half hour three convulsions had occurred, and again profound coma appeared. Lumbar puncture was again performed, and again over an ounce of cerebrospinal fluid was withdrawn, although the canal had been emptied not four hours previously. There was no improvement, on this occasion, however, and the patient died before morning. An autopsy was not allowed.

Case 3.—E. McD., white, male, aged 38, an instance of uremic coma, was admitted to the wards of the Philadelphia Hospital on Oct. 28, 1904, following a debauch.

Examination.—There was partial coma, which increased during the next three days, though at no time was it possible to rouse him by questions. The arteries were hard and fibrous, the second aortic sound was loud and metallic, and the heart was much dilated. The urine contained large quantities of albumin, and many casts of all forms. The breath was distinctly urinous.

Treatment and Result.—On Nov. 2, 1904, lumbar puncture was performed, the fluid spurting from the needle, and about an ounce being obtained. There was absolutely no improvement in the condition, and on the following day 20 ounces of blood were removed by venesection. Improvement was extremely slight, if present at all, and consciousness was never regained. The patient rapidly emaciated and died on Nov. 11, 1904. Autopsy was not permitted.

CASE 4.—M. W., colored, female, aged 52, a case of uremic hemiplegia, convulsions, and amaurosis, was admitted to the Philadelphia Hospital on Nov. 28, 1904.

History.—Several months previously she had had an attack in which she fell and was unconscious "for a few minutes." She had then recovered completely. Her hands and feet had never swollen, but she had been subject to headache. On the day of her admission she had fallen again owing to sudden unconsciousness. The patient knew nothing of these falls, and stated that she had felt merely a numb feeling in her left arm for about an hour on the morning of her last attack (the present one). On awaking from her stupor she was in the hospital convalescent, with a dim recollection of the pain of my incision prior to the lumbar puncture.

Examination.—On admission, the patient was profoundly comatose, with complete paralysis of the left side of the body. Both pupils were contracted, the peripheral arteries were hard and fibrous (the radials beaded), the pulse of high tension, and the second aortic sound characteristically accentuated and metallic. The heart was greatly dilated. The lungs appeared negative. There was no edema, even the pretibial tissues showing no sign of pitting on pressure.

Treatment and Result.—Lumbar puncture was performed. Five drams of cerebrospinal fluid flowed from the cannula, at first with force, and later dripping slowly as in health. At once the patient seemed brighter mentally, and an hour later moved both the arm and leg freely, and discussed "what had been done to her back" intelligently and clearly. She could see almost nothing, however, except the gaslight. On the following morning the paralysis had entirely disappeared, and she was able to see clearly with her spectacles as usual. The pulse at this time was slow and full and the second aortic sound much less angry and metallic than previously. Headache was completely gone. On Dec. 7, 1904, she sat out of bed, and two days later was walking freely around the ward, feeling strong and well.

CASE 5.—Same patient as in Case 4, an instance of recurrent hemiplegia and convulsions.

Course of the Disease.—The patient remained in the Philadelphia Hospital, and was free from symptoms until December 31, when she described a numb feeling in her left arm and side, headache, and dimness of vision. The urine contained a trace of albumin, and showed a constantly low specific gravity. The pulse was of high tension, and the second aortic sound angry and metallic in its accentuation. She was placed in bed, and the next morning felt well and was again around the ward. On January 3, she again felt numbness in her left arm, had severe headache and about 10 a. m. noticed her left hand and fingers twitching. She was placed in bed and at 12 o'clock, noon, the twitching had increased to violent rhythmic movements of the left hand and soon of the left arm, later of the left side of the face, and then involving the left leg, until the convulsive movements included the whole left side. Consciousness was preserved, and the patient stated that she had severe headache, but that her eyesight was clear. At 1:30 p. m. there was complete hemiplegia of the left side, though uncontrollable convulsive movements were almost constant.

Treatment and Result.—Lumbar puncture was performed with the only needle obtainable, of a very small, unsatisfactory size, and about 10 c.c. of fluid withdrawn, but the needle becoming plugged no more could be obtained. The convulsion became general about 3 p. m., and at 4:30 lumbar puncture was done with a small trocar and cannula, and considerably over one ounce of cerebrospinal fluid was withdrawn. The latter was blood tinged. During and prior to the operation the convulsive movements became very active. When asked to raise her arms and legs the patient responded with her right limbs, but failed completely with the left. Sensation was diminished on the hemiplegic side. The reflexes were almost absent on the same side. The pupils were contracted and equal.

While the fluid was still flowing from the cannula the patient suddenly relaxed and the convulsive movements disappeared, to recur once or twice very slightly, and then to disappear finally within five minutes of the withdrawal of the cannula. The headache was relieved to a great extent at once during this attack; the eyesight at no time was impaired. One-half hour after the lumbar puncture the hemiplegia was still complete. Two hours later (7 p. m.), the patient raised her left hand, and at 10 p. m. the entire left side was under control. Her convalescence from that time was steady.

Subsequent History.—On the evening of January 6 (three days later), the patient suddenly went into a general epileptiform convulsion and was completely unconscious during the convulsive seizure, after which her mind gradually cleared. There was no paralysis. One hour later, a second convulsion followed. The spinal canal was punctured, but no fluid could be withdrawn, although the cannula was repeatedly extracted and reinserted in the canal. In the emergency bleeding was resorted to. The veins collapsed as fast as they were opened, and finally the radial artery was incised and 23.5 ounces of blood were removed. Within an hour, the patient had a third convulsion, and from that time for twelve hours was in a state of constant delirium. The radial pulse which had been obliterated was faintly palpable on the succeeding day (20 hours later); the left radial was of a markedly high tension. With the idea that, having relieved the fluid pressure, the remaining uremia including the high pulse tension must be purely toxic, aconite was given in 5-drop and later 10-drop doses every two hours, and with gradually favorable results, the patient relaxing and finally returning to a state of rest. The high tension of the radial pulse gave way to a normal condition, and the second aortic sound lost much of its metallic quality and accentuation.[2]

CASE 6.—W. E., white, male, aged 44; an instance of uremic asthma; was admitted to Philadelphia Hospital on July 7, 1904, suffering from rheumatism of the toe and thumb.

Course of the Disease.—As the rheumatism subsided, his legs began to swell. His arteries were stiff and fibrous, his heart dilated, his second aortic sound metallic and loud, and his urine contained considerable albumin and many hyalin and granular casts. He remained in bed from July to October, 1904, and then began to suffer from severe dyspnea, especially at night. He also has now to rise several times during the night to urinate. The dyspnea soon developed into severe attacks of asthma, his face became puffy and swollen, as did also his lumbar region, his buttocks, and gradually his legs. Nitroglycerin and caffein were used continuously. When at last the asthmatic attacks made their appearance every few hours it became a matter of almost certainty that they were due to uremic poisoning or to uremic intracranial tension.

Treatment and Result.—On Oct. 3, 1904, venesection was done by the resident physician, and 10 ounces of blood were removed, with marked temporary relief from the dyspnea. The asthma recurred, however, and on October 13 venesection was done on the other arm, the same amount of blood being withdrawn and temporary improvement again following. The radial pulse disappeared on the side of the operation for about four days following the latter, and then suddenly reappeared. His legs, buttocks, and face were greatly distended with fluid, and on elevating his legs his abdomen showed distinct fluctuation, which disappeared when both the body and legs were finally lowered. About October 18, the asthmatic seizures recurred, and became very severe. Lumbar puncture was done on October 20, the cerebrospinal fluid spurting out until one and three-quarters ounces were obtained. Immediate relief was experienced, and from this time until November 8 (18 days), he was free from distress, and then had a brief attack which proved to be his last up to the present time. The edema gradually disappeared until, on December 2, there was no pitting on pressure, even over the pretibial area. The patient was then dressed and out of bed for the first time in six months. Two days later he returned to bed with an acute attack of rheumatic inflammation of the ankle joint, but with no indication of uremic or other renal embarrassment. On December 26 there was a protracted convulsive movement of his arms and legs, lasting for three-quarters of an hour and disappearing as suddenly as it occurred. Consciousness was preserved throughout the attack, whatever its doubtful nature may have been. A definite statement certainly can not be made as to whether it was or was not uremic, though, as there was neither chill nor fever, and the pulse remained normal, the patient conversing with the nurse and the resident physician throughout the seizure, I have been inclined to consider it hysteric in character. Since that time bronchopneumonia and pleurisy have successively complicated the nephritis, but the uremic symptoms have failed to reappear.*

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[2] This patient recovered entirely and returned home feeling well. As long as she was under observation, her constant tendency to a high-tension pulse was controlled by the intermittent use of aconite.

Case 7.—E. J., white, male, aged 68; a case of uremic coma and delirium; was admitted to the Philadelphia Hospital on Dec. 27, 1904, with ruptured cardiac compensation, dyspnea, and marked edema of the extremities.

Examination.—His lung showed a small area of bronchopneumonia. The urine contained large quantities of albumin and many granular casts of all forms.

Course of the Disease.—On Jan. 4, 1905, the patient's breath was distinctly urinous, his mind was not clear, the temperature rose from subnormal to 101 F., the respiratory rate from normal to 40, and the pulse from 50 to 120. Delirium soon became prominent, restraint in bed being necessary. On Jan. 19, 1905, the condition was somewhat improved, though there was the same odor of urine on the breath, and the mind was by no means clear.

Treatment and Result.—Lumbar puncture was performed and one and one-half ounces of clear cerebrospinal fluid was obtained. The temperature fell within three hours from 101 F. to subnormal, the pulse from 110 to 50 and then to 80, where it remained; the respiratory rate became 20. Within three hours the patient answered questions intelligently, and was fully conscious. On January 7 delirium returned, with incontinence of feces and urine, and death ensued during the night.

Autopsy.—The autopsy showed: Cerebral edema, both lateral ventricles appeared dilated; chronic adhesive pleurisy, hydrothorax, chronic interstitial nephritis, acute pyelitis, cystitis; urethritis, and red atrophy of the liver.

SYNOPSIS OF CASES.

In a brief backward glance at the foregoing cases we may frame the following synopsis:

Case 1: Uremic coma and convulsions in man of 82. Lumbar puncture and 2 ounces of fluid withdrawn. Recovery. Death 56 days later. Autopsy: greatly dilated lateral ventricles.

Case 2: Uremic coma and convulsions in man of 36. Lumbar puncture; one ounce of fluid withdrawn. Improvement. Transfusion of salt solution, followed at once by relapse. Second lumbar puncture four hours after first; again one ounce of fluid withdrawn. No improvement; death.

Case 3: Uremic coma in man of 38. Lumbar puncture; one ounce of fluid obtained. No improvement. Venesection (20 oz.), with slight temporary improvement. Death.

Case 4: Uremic hemiplegia, convulsions and amaurosis in a woman of 52. Lumbar puncture; five drams withdrawn, with prompt disappearance of the hemiplegia and of the amaurosis. Recovery.

Case 5: Convalescent uremic hemiplegia. One month later a recurrence of the convulsions and left-sided hemiplegia. Lumbar puncture, one and one-third ounces of fluid removed. Immediate cessation of the convulsive seizure and disappearance of the hemiplegia within three hours.

Case 6: Uremic asthma. (1) Venesection, (2) venesection; improvement following both, then relapse. Lumbar puncture (one and three-quarters ounces), with almost complete and finally permanent relief. Recovery.

Case 7: Uremic coma and delirium. Lumbar puncture, followed within two hours by a return to consciousness. Recurrence of condition and death two days later.

In order to render the following discussion as practical as possible, the three questions already proposed may be cited and answered seriatim.

I. TO WHAT EXTENT DOES INTRACRANIAL PRESSURE INFLUENCE THE OCCASIONAL CASE OF UREMIA WHICH RESPONDS TO SPINAL DRAINAGE?

The answer to this question may be based on the following evidence offered (a) by the physical signs before and after lumbar puncture, (b) by the influence of the latter on uremic coma (complete or partial), (c) by its influence on the uremic convulsion, (d) by its influence on uremic monoplegia or hemiplegia, (e) by its influence on uremic asthma, (f) by its influence on uremic amaurosis.

Among the physical signs indicative of intracranial and intravascular pressure are the coma, the pupillary abnormalities, the hemiplegia (temporary), the pulse of hypertension, the angrily accentuated second aortic sound, and the convulsive movements.

Without considering these in detail, it may be assumed, as a matter of common knowledge, that all the foregoing may be caused by excessive intracranial pressure. Not only have Gower's studies shown that a pressure of 130 mm. exerted on the brain of a dog is sufficient to cause coma, but many other clinical examples bear witness to the fact that one form and another of intracranial pressure—cyst, tumor, bony outgrowth, cicatrix—may cause, singly or in combination, all the remaining phenomena which I have mentioned.

The converse is equally well proven by the cases cited in this paper, viz., that these phenomena disappear, as a rule, on relief of intracerebrospinal pressure. In every instance in which improvement has been noted, the coma has been at least partially, and usually completely, relieved with such promptness as to leave no doubt regarding the causal influence; hemiplegia, when present, has been caused to disappear, monoplegia (see former article) likewise, the pulse has become softer and even normal, amaurosis has disappeared, the aortic second sound has become less accentuated and less metallic, the convulsive movements have (even in eventually unfavorable cases) ceased, and at times before the flow of cerebrospinal fluid had stopped.

With special reference to the coma, it will be observed that in two of the series of three cases reported in my former communication, and in five out of the seven cases in the present series, the coma disappeared almost immediately (within two hours) after the withdrawal of evidently overlarge quantities of cerebrospinal fluid. In Case 1, of the former series, consciousness was never fully restored, but within a few minutes mental clearing was apparent. In Case 2, consciousness was completely restored within a few hours of the operation. In Case 3, consciousness became almost complete after each of three daily lumbar punctures. In Case 1, of the present series, consciousness was complete within a half-hour from a previous deep coma; the patient in Case 2, also previously in deep coma, could be aroused within two hours, but following venoclysis relapsed and died; in Case 3 there was no improvement; in Case 4 the patient regained consciousness within an hour; in Case 5 the patient did not lose consciousness; in Case 6 the patient did not lose consciousness; in Case 7 the patient regained complete consciousness in about one and one-half hours. Thus, of ten cases of uremia, eight patients were comatose and six regained consciousness shortly after spinal drainage.

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* This patient is now out of bed and preparing to return to his home, free from cardiac and respiratory distress.

Three patients (Case 3 of the first series and Cases 4 and 5 of the present) exhibited paralysis, the former an oculomotor palsy and the latter two complete hemiplegia. In all these instances the paralysis was relieved, and in the hemiplegic woman the change was remarkable—from a complete left-sided hemiplegia to a free use and control of her entire body within 12 hours, and to a partial use at once.

Of the ten cases included in the two series, six patients suffered from convulsive movements; in five instances general, and in two (one patient) limited to the hemiplegic side. In every case in which spinal drainage was instituted the convulsions terminated with the withdrawal of the cerebrospinal fluid, and in only one case did they recur within several weeks of the operation. In Case 5 the convulsions were at one time general, following two attacks of unilateral convulsions and hemiplegia.

Of the ten cases, only one gave certain evidence of true amaurosis, and this disappeared within a few hours after the lumbar puncture. One case showed typical uremic asthma as its most prominent feature, the breath at the same time being distinctly urinous. The asthmatic attacks were relieved twice by bleeding, and the third time by spinal drainage, and since the latter have not recurred.

TREATMENT EMPLOYED.

In all of the foregoing cases, the routine treatment consisted of free purging, drainage of the cerebrospinal canal, and occasionally bleeding. Only those cases in which lumbar puncture formed the only treatment at that particular time are, however, considered in this paper. Two patients were transfused with normal salt solution and both died; one of these showed improvement until the salt solution was introduced, then promptly relapsed into coma and convulsions; death ensued. The hot pack has invariably appeared to me to cause high temperature and a weak running pulse, and in no case has seemed to be certainly beneficial.

In Cases 1, 4, 5 and 7 of the present series, all instances of profound coma, convulsions, and in one instance hemiplegia, absolutely no other measure was employed than drainage of the cerebrospinal canal.

Spinal drainage, bleeding and over-free purging seemed to act similarly in their respective order of promptness and efficiency. The similarity of the action of lumbar puncture and venesection was most evident in Case 6 (renal asthma). Aconite appeared to exert a decided and invaluable influence in counteracting the uremic, adrenalin-like toxin, thus reducing intravascular hypertension when fluid pressure had been dissipated in vain (Case 5).

It would appear to be a fair inference from the foregoing that in all except Case 3 (of the present series), namely, in nine of ten instances, relief of intracranial pressure effectually relieved the symptom complex known as uremia; and similarly it would, on the same grounds, seem reasonable to conclude that intracranial overpressure, whether due to toxemia or whatever cause, was at least the dominant factor in causing the uremic picture in these particular instances. In Case 6 cerebrospinal pressure seemed at first to be the only factor, and later appeared to have no hand in the affair, which then suggested a toxic influence only.

II. TO WHAT DEGREE DOES INTRACEREBROSPINAL PRESSURE INFLUENCE THE AVERAGE CASE OF UREMIA?

In order to arrive at any conclusion, it becomes necessary to analyze the cases of uremia reported in medical literature to the present date which have been treated in the main or solely by lumbar puncture and drainage of the spinal canal. Of my own ten cases, all but one showed marked improvement within the two hours following the withdrawal of the fluid, and Cases 1 and 5 of the present series showed almost instantaneous return to consciousness and quiet. In Case 4, the severe headache suddenly disappeared. Of these ten cases, five improved so far as to be entirely free from uremic symptoms. Five died too soon after the operation to warrant the statement that final recovery from uremia took place, in spite of the return to consciousness and the cessation of convulsive movements.

While a sufficient number of instances of lumbar puncture in uremia has been recorded up to date to justify an estimate of the value of the procedure, the list is by no means extensive. McVail has reported two cases of uremic coma and convulsions, in both of which recovery took place for the time being at least. Seiffert has also reported several instances of uremic convulsions and coma in the course of scarlatina in which prompt recovery followed lumbar puncture. Hand has recently described a case of uremia in typhoid fever, in a child, responding promptly to spinal drainage.

During the last three years, there have been many instances of intracranial hypertension other than those of uremia in which lumbar puncture has been employed, which illustrate the same principle. In many, the symptoms were identical with those of the uremic state. Among them the following are most suggestive: Huber[3] has relieved otitis serous meningitis, also the cerebrospinal form of typhoid fever, and true cerebrospinal meningitis, in three different patients by lumbar puncture. Beky[4] has permanently cured acute hydrocephalus by repeated (fifteen and upward) and persistent tappings and withdrawal of the cerebrospinal fluid. He notes that Concetti has cured another patient by tapping fifty times within two years and with capital final results. Many observers, among them Warrington,[5] have drained the spinal canal in meningitis with prompt return of the patient to consciousness, and with relief from other symptoms. Lumbar puncture has also been used in bronchopulmonary lesions, and Nobecourt and Voisin[6] have reported its use in thirty-one such instances in children. In seven of these, there were no meningeal phenomena, while in 24 it was marked. Of the 24 meningeal cases only four patients survived, the symptoms varying from mere stiffness of the neck to convulsions. In the seven cases without meningeal symptoms the cerebrospinal fluid was clear and usually sterile. In the meningeal series it was turbid, contained many polynuclear leucocytes and bacteria.

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[3] Arch. Ped., January, 1904.

[4] Jahr. f. Kinderheilk., February, 1903.

[5] Pediatrics, February, 1903.

[6] Revue Mens. des Mal. de l'Enf. xxi, 1903.

Babinski[7] reports an interesting case of meningitis in a young girl of 12 years in whom the fluid obtained by lumbar puncture spurted out in a turbid stream. During the month, several subsequent punctures gave the same result, and at last recovery ensued.

S. O. Golden[8] records a case of meningitis with convulsions in a child, with protrusion of the fontanelles, the latter subsiding at once on draining the fluid from the spinal canal.

Syphilitic cephalalgia has also been relieved in this manner by Millan [9] in Fournier's service; and Rochard[10] has restored consciousness promptly in fracture of the skull by draining in the same fashion.

Herbert Rhodes[11] has called attention to the prompt relief from pain following lumbar puncture in a case of gliosarcoma of the optic thalamus. also to the relief of coma in a case of postbasal meningitis. Hodskins and Norton have published a most interesting series of cases of status epilepticus treated by lumbar puncture, in six of which there was positive improvement and recovery in four cases, attended by marked lowering of the blood pressure.

Each and all of these cases demonstrate the fact that when cerebrospinal fluid is present in excess, and in quantities sufficient to exert intracranial overpressure, the symptoms due to hypertension are promptly relieved by drainage following lumbar puncture. In all but one of my own ten cases, and in all of the instances of lumbar puncture in uremia reported by other observers there has been the same prompt relief from pressure symptoms whether the case eventually terminated in recovery or proved fatal. In all the cases observed by me, there was a marked change not only in the volume, but in the rate and force of the radial and apical pulse, and frequently a corresponding fall in the temperature and respiratory rate. I shall deal in a subsequent paper with the actual fall in blood pressure resulting from drainage of the spinal canal. When the fluid spurted from the needle, improvement was almost invariably (with one exception) prompt and usually permanent. If it simply dropped as if reluctant to flow, the improvement was much less positive. The average amount of cerebrospinal fluid obtained was considerably over an ounce, and in one case (1) over two ounces was obtained.

In all my cases except 3 and 5 (in the third attack) the result of spinal drainage was gratifying. In Case 3 absolutely no improvement was noted in spite of the fact that an ounce of fluid was withdrawn. One such case goes far toward proving that occasionally the toxemia or the local influence of the toxin is so profound as to dominate the symptom complex, in which event lumbar puncture is futile. Such a case can be isolated from the average only by the failure of spinal drainage and bleeding, or in the event of a dry condition of the canal as in Case 5 in the third attack. The great majority of cases will respond at least partially and many completely to lumbar puncture; and many others will respond to this procedure when reinforced by bleeding, free purging, diuresis, and the use of aconite. It would seem warranted to say that lumbar puncture should be employed in every case of uremia, and should be looked on as one of the most important features of the routine treatment.

III. IN WHAT MANNER DOES DRAINAGE OF THE CEREBROSPINAL CANAL EXERT AN INFLUENCE ON INTRACRANIAL PRESSURE; AND WHAT OTHER PROCEDURES MAY EXERT A SIMILAR INFLUENCE?

It seems certain from the autopsies in Cases 3 of my former series, and 1 and 7 of the present series, that in certain instances of uremia, if not all, the brain tissue suffers from fluid pressure. This affects the parenchyma itself, distends the ventricles and the spinal canal, and in Case 3 of the former report led to the formation of a cystic cavity in the brain substance leading from the posterior horn of the left lateral ventricle.

Drainage of the cerebrospinal canal indubitably relieves the excess of fluid, as is proved both by the appearance of dilatation of the ventricles at the autopsy and by the repeated dry tapping in Case 5, following an earlier puncture, which showed an excess of fluid.[12]

The prompt relief from clinical symptoms furnishes still more satisfactory proof of this point. It also goes to show that in certain instances the injury to the cortical motor centers is only temporary, and is independent of the occasional destruction of cellular tissue described by Weisenberg as occurring in uremia and referred to in my previous communication. That wholesale destruction may occur is evidenced by this very cyst formation, even more certainly than by microscopic study. I consider the question still *sub judice* whether this tissue change should be credited altogether to the action of a toxin, as held by Weisenberg, or whether perhaps direct pressure may not have an equal or even greater influence in certain instances.

The mechanism seems to be somewhat as follows: Owing both to the toxemia and to the arteriosclerosis, hypertension of the arterial and venous circulation prevails, and as a consequence an increasing hypertension of the cerebral blood and lymph channels. Possibly the toxin carried to the brain by the blood vessels exerts a local action also on the various motor centers. Thus, we find working side by side a toxin and fluid pressure, the latter often in the form of edema, and both capable of producing a similar series of brain symptoms, and both acting, many times, in conjunction.

Possibly the excess of fluid is directly due to the influence of the toxin on the brain tissue or on the meninges, or in any event to strictly local influences. Certain it is that fluid pressure occurs most frequently in persons who are entirely free from general edema or effusion other than that in the cerebrospinal cavity. The toxin, therefore, may be the predominant factor, or, as more frequently occurs, if we can judge from a series of cases like my own, the excess of fluid within the cranium may of itself produce the uremic picture. Whether the uremic picture is due to the one or the other is of little clinical consequence, provided the withdrawal of the fluid relieves the symptoms. The very relief of such symptoms as headache, convulsions, amaurosis, and coma, by mere drainage of the cerebrospinal canal, forces us to the conclusion that portions of the brain are sometimes encroached on and that sometimes there is even an isolated involvement of one or more motor centers, which is most easily and rationally explained by the assumption of a localized collection of fluid or edema, which in favorable cases disappears under the influence of lumbar puncture. Free drainage of the canal depletes at once the ventricles, the brain tissue, and ultimately also the venous and lymph channels. Free bleeding must accomplish the same result by working from the opposite direction, i. e., through the circulation, and secondarily through such a relief of congestive pressure. The latter is, of course, a much more indirect, a slower, and therefore less efficacious process. Bleeding, free diuresis and purging and sweating act in the same manner, by relieving the general circulatory hypertension, and, indirectly, by relieving intracranial pressure. Aconite seems to act in a similar manner by depressing the cardiac vigor and thus diminishing the amount of blood forced with each systole into the already overful brain, and by dilating or relaxing the vessel walls. Nitroglycerin dilates the peripheral vessels to accommodate the excess of blood, but, unfortunately, it also whips up the heart into new exertions, so as to further increase the systolic output.

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[7] La Revue Méd. No. 435, 1902, p. 713.
[8] Amer. Med., Dec. 27, 1902.
[9] Semaine Med., June, 1902.
[10] Presse Med., No. 35, 1902.
[11] Brit. Med. Jour., July 11, 1903.

[12] This occurrence should not lead to the conclusion that the fluid does not as a rule recollect. It usually does; in this case it did not.

Of all these adjuvant measures free bleeding, from a vein or artery, seems to be the most rational procedure after lumbar puncture, and only second in importance to the direct drainage of the tissues of the central nervous system.

Thus it seems fair to assume that cerebrospinal drainage relieves the symptoms of uremia by directly relieving the excess of fluid in the brain cavities and brain tissue, and that in certain cases the fluid must be repeatedly removed until it ceases to reform and recollect within the cranium.

IV. WHAT INFLUENCE, IF ANY, WILL RELIEF OF INTRACRANIAL HYPERTENSION EXERT ON A DOMINANT UREMIC TOXEMIA?

The discussion of this question must rest on the assumption that (1) a toxin or toxins are actually at work in uremia; (2) that the vascular hypertension is the direct result of a toxemia; and (3) that the cerebrospinal overpressure which characterizes certain cases is due to the excess of cerebrospinal fluid manufactured as a direct outcome and result of the toxic state.

If we admit these theories to be founded on a fair basis of probability it is easy to proceed a step further and to assume that by relief of cerebrospinal tension, which itself is a result of toxic irritation, we neutralize and gradually lessen the influence of the toxin, which may exhaust itself in this manner in vain, the spinal drainage serving the rôle of safety valve or exhaust. There is also the possibility, though nothing more, that a significant amount of toxin is abstracted with the cerebrospinal fluid, and also by bleeding, and that in this way the amount of toxin is directly reduced. The experiments of Hughes and Carter[13] would seem to indicate that the blood serum of uremic human beings and less so that of the healthy human organism is toxic at least for dogs. Our own animal experiments[1] seem to demonstrate conclusively that the cerebrospinal fluid of uremic persons contains no principle deleterious to the smaller animals. My feeling at the present time is that in all cases of uremia both a toxin (or toxins) and intracranial pressure are at work, and that relief from either must to that degree enable the patient to withstand the assaults of the other.

TRANSFUSION OF NORMAL SALT SOLUTION IN UREMIA.

I have already emphasized my conviction that transfusion of normal salt solution in uremia is contrary to what we know to be beneficial to the state of the individual at the time. Even when there is only the likelihood and not the certainty of intracranial pressure, the result of introducing any liquids, and especially salt solutions, into the circulation will be to raise the pressure still further.

If we first bleed to abstract the toxin and to reduce pressure, and then transfuse in the hope of diluting the toxin (a theory at one time in prime favor) we at once restore one of the conditions most active in producing the symptom-complex of uremia, namely, intravascular and intracranial pressure. A striking demonstration of the truth of this assertion was obtained in Case 2 (this series), which showed decided improvement following the spinal drainage. The resident physician then extracted a small quantity of blood and introduced in its place a considerable quantity of normal salt solution. This procedure was promptly followed by convulsive seizures and coma, and the second lumbar puncture obtained as much cerebrospinal fluid as the first, although the canal had been drained dry not over three hours before. Novi has produced the complete picture of uremia in dogs by the injection of a 10 per cent. solution of common salt solution into the blood stream, until the latter attained a concentration twice that of the normal. Landois has produced "coma and convulsions by simply applying a sodium chlorid solution to the surface of the cerebral cortex. As the substance was absorbed the attacks grew slighter, and perfect recovery at times ensued."[14]

These facts lead me to the conclsuion that no good end can be served and that much ill may be accomplished by venoclysis in uremia, while its opposite, free depletion, is an ideal procedure from every point of view.

METHOD AND INDICATIONS FOR LUMBAR PUNCTURE.

In all my cases I have followed a method of procedure founded partially on the technic employed by others and partly on the difficulties experienced in several of my first cases. A frequent cause of failure to attain the cerebrospinal canal is the employment of an instrument that is too short to reach its destination. Another source of difficulty lies in the fact that a needle is commonly used the lumen of which can not be cleared while *in situ*; and, finally, most cases of failure are noted in subjects with a thick adipose or muscular layer over the spinal column in which the spinous processes are obscured or lost, as is also considerable of the needle's length. I used in my second case and still constantly employ a small trocar and cannula, the latter nearly 8 cm. in length, and its lumen measuring 1.5 mm. This instrument was resorted to owing to the fact that the small needle used in the first operation repeatedly became clogged in its passage through the cartilage and in this case more than once failed to reach the canal.

When the tissues overlying the vertebral column are excessive I also make a small incision over the upper lumbar vertebræ large enough for the insertion of the forefinger. With the patient in the left lateral position, his knees approximating his chin as nearly as possible, I then introduce the trocar and cannula between the second and third or between the third and fourth lumbar vertebræ. Klein recommends the third and fourth interspaces, and publishes an illustrative series of diagrams showing the relative positions of the vertebræ in the cadaver. The instrument passes along the finger, then downward and slightly outward beside the spinous process, feeling for the yielding of the cartilage. The feel as the trocar leaves the bone and enters the cartilage is unmistakable, and as the needle can not penetrate any other structures so long as it keeps fairly close to the spinous process, it is probable that the first yielding surface is the sought-for intervertebral disc.

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[13] Boylston Prize Essay, 1893.

[14] Quoted from previous communication.

Ossipow[15] has pointed out the various dangers of the otherwise very simple operation, but with cleanliness and care in the presence of undoubted uremia there should be no time lost in proceeding to the operation. Fatal meningitis has rarely been caused where none existed before. Mathes,[16] and Furbringer, Kronig, and Lichtheim have all reported cases in which death followed the puncture. The latter observers withdrew at times from 100 to 150 c.c., reducing the intraspinal pressure from 420 to 180 mm. of mercury. Millan[17] cites the case of a young woman punctured for chronic headaches, in whom extremely severe headache followed the operation, with vertigo, nausea and vomiting. In contrast to such occurrences, I must cite the present series of cases, in each of which relief, not aggravation, of the symptoms was the result.

I have obtained my best results in cases in which the fluid spurted from the cannula. In some of these the serum was clear and in some bloody; thus in all the present series of cases the fluid was clear, except one in which blood (which promptly coagulated and probably originated in a punctured vessel) and serum flowed from the cannula together. This case, however, showed a most prompt and gratifying result and the patient is still alive as evidence of the success of the treatment.

I have also obtained clear and again bloody fluid from cases which proved afterward to be fatal. A syringe pump is never necessary, as the fluid if present in excessive quantity will force its way out of the tube as soon as the latter enters the canal; and I incline to the belief that many of the unfortunate results have been due to the use of the syringe. On the other hand, it is my belief that all cerebrospinal fluid should be withdrawn, notwithstanding Ossipow's conclusion that hemorrhage into the brain and cord is likely to occur after the withdrawal of considerable quantities of cerebrospinal fluid. I have seen no unfortunate results attributable to the operation in any of my cases and in some I have allowed the wound to drain for several days, to obviate the necessity of repeating the puncture. In one case I drained the cerebrospinal canal for more than three days with excellent results, the fluid escaping in such profusion as to keep a thick gauze dressing and the nightclothes constantly moist. Of Seiffert's cases, there were two in which he did repeated lumbar puncture with resulting recovery. I have already cited Boky's, Concetti's, and my own cases in which repeated punctures were performed with final benefit to the patient. Occasionally the cerebrospinal fluid is bloody, and sometimes it flows like thick blood. Normally it is thin and clear. When viscid the fluid may take its character from an admixture of blood from torn vessels outside the canal, or from vessels in the dura mater, or in the pia mater. If the latter is the source, the fluid should become clear on withdrawing the cannula a short distance. Blood from a vessel will also promptly coagulate in the air under ordinary circumstances; blood from the spinal canal will not, owing to thorough mixture with the cerebrospinal fluid. If the ruptured vessel is in the dura mater a little deeper insertion into the canal will clear it of contact with the bleeding surface. If a trocar and cannula be employed, the plunger can clear away obstructions to the tube at the will of the operator. A yellowish or reddish tint usually indicates the presence in the fluid of hemoglobin or of red corpuscles actually in solution.

CONCLUSIONS.

In summing up my conclusions, I would call especial attention to the fact that by no means all cases that show chronic interstitial nephritis are subject to uremia, and to the still more important circumstance that neither sclerosis of the kidney, nor, in fact, arteriosclerosis, predisposes to uremia until hypertension of the vascular system is superadded. The two by no means always go hand in hand. Many cases of high-grade sclerosis present a comparatively normal blood pressure. Certain cases of hypertension show little or no sclerosis and yet apoplexy occurs. Add to sclerosis of the arteries and veins hypertension, however, with the consequent intracranial tension due to this and to local toxic irritation, and we have present at once the ideal conditions for the causation of the uremic picture.

The preceding series of ten cases treated entirely with a view to relieving pressure appears to warrant the following conclusions:

1. The belief is reaffirmed that various toxins are influential in producing the symptoms in various instances of uremia. Among these, probably the most important is one originating in an abnormal digestive tract, or elsewhere, and resembling adrenalin in its physiologic action, as suggested by Thomson.
2. Whether as a result of or a coincidence with toxic irritation, intracerebrospinal overpressure, due to an accumulation of fluid, may and usually does cause the majority of the classical symptoms of uremia, and is often the dominant influence.
3. Spinal drainage may, and in many cases does, promptly relieve the symptoms of uremia, furnishing clinical proof of the foregoing statement.
4. Case 5 demonstrates the fact, however, that occasionally when intracranial pressure has been removed the toxin alone may cause the picture of uremia.
5. Uremic manifestations (other than coma), when due to intracranial pressure, may be either general or localized. Unilateral convulsions, convulsive movements of one limb, monoplegia, hemiplegia, motor or sensory aphasia, and similar phenomena are of rather frequent occurrence. The toxic influence, in the few instances in which it has seemed to act independently of intracranial pressure, has caused only general manifestations, usually of an irritative nature (convulsions, etc.), seldom, if ever, paralytic phenomena.
6. Uremic hemiplegia and other uremic paralyses are due usually to direct pressure on, or edematous infiltration of, the motor centers of the brain, and may usually be relieved by withdrawal of the cerebrospinal fluid.
7. There is a striking suggestiveness in the frequent absence of general edema, though there be an excess of intracranial fluid, arising from an entirely different influence and cause. My most successful cases showed

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[15] Deuts. Zeits. f. Nervenheilk, No. 2.

[16] Mathes, Centralbl. f. Gyn., vol. xxviii, No. 8, 1904.

[17] Semaine Méd., June 18, 1902.

no edema of the external body, but without exception a high degree of intravascular and intracranial tension.

8. Lumbar drainage should be employed as a routine measure, together with all the known means of reducing systemic pressure or hypertension. Among these the most valuable are free bleeding, free purging, free diuresis, and the administration of large doses of aconite.

9. The ultimate cause of the vascular hypertension of uremia has not yet been discovered. It would appear by no means impossible that the intracranial fluid pressure is partly due to toxic inflammatory exudate; that this causes hypertension within the cranium and favors a similar hypertension throughout the general circulation, or vice versa; and that the symptom-complex of uremia is thus usually due to such a sequence of causes. Probably uremia can not occur in the presence of low intravascular and intracerebrospinal tension.[18]

10. It would appear from the failure in repeated instances to produce any deleterious effect on healthy small animals by injecting successive small quantities of the cerebrospinal fluid from uremic subjects that the toxic principle of uremia is not to be found in the latter. The experiments of Hughes and Carter in 1893 seemed to show that it may possibly be found constantly present in small quantities in the normal blood serum.

11. While lumbar puncture is not infallible, nor devoid of a slight risk to the patient, the procedure should be employed early in the course of uremia, and repeatedly if necessary to accomplish the lowering of systemic hypertension. It may save life and will often dissipate the uremia at least for the time being.

12. Transfusion of normal or other salt solution is harmful in uremia, in that it causes, both by its mechanical and chemical influence, an increase of intravascular and intracranial tension, and supplies certain of the conditions necessary to the uremic seizure.

MOVABLE KIDNEY.

IS IT A SURGICAL LESION? IF SO, HOW IS IT BEST CORRECTED?

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OMAHA.

Further interest in this subject is aroused by a recent contribution from Mr. Treves in which he facetiously questions the existence of this lesion, but immediately suggests a treatment by means of a complicated double-spring truss which, he says, must be delicately adjusted.

It is well understood that the kidney, normally, has a certain range of motion; it is generally admitted that the degree of mobility varies considerably and that it may attain a position easily palpable yet may not cause pathologic changes; it is an accepted fact that its ptosis is sometimes but a part of Glenard's disease; but faithful observers of the anatomy and the pathology that is seen within the abdomen in repeated explorations recognize the additional and—clinically speaking—the rather more important fact that the kidney *may attain such* a degree of mobility as primarily and seriously to act as an impediment to health and that in so doing it produces in the contiguous organs a pathology which can be neither palliated nor cured by the delicate adjustment of any form of spring truss—the opinion of Mr. Treves to the contrary, notwithstanding.

That this position can be supported will become apparent from the argument of two propositions: first, that the anatomic surroundings of the kidney, in some people, encourages its wide displacement; second, that when so displaced its presence sets up contiguous inflammatory changes, especially peritoneal adhesions, for the relief of which an abdominal support must be impotent, and its use pernicious.

To sustain the first proposition it is but necessary to recall the well-known fact that the postabdominal lumbar fossa, in which the kidney rests, is practically absent in some people. Experienced clinicians actually get accustomed to suspect a movable kidney in a long-waisted, thin-flanked woman. This physical build is in fact the type in which the movable kidney most frequently occurs, although no physique should be considered free from the possibility of the occurrence of a wandering kidney.

Another observation which is made by those who explore the abdomen is that the peritoneum, in its resistance, in the strength of its texture and in the firmness of its attachments, presents the widest variations. It offers, therefore, an equally uncertain support to the kidney. Indeed, it has been my view for some time that the variations in the reflections of the peritoneum, especially in the right side of the abdomen, and the wide difference in its strength and mature development, influence to a marked degree acute and chronic inflammatory changes of this neighborhood.

I would not underestimate the positive relations which exist between the implantation of a virulent germ on the peritoneum and the acute destructive inflammation which follows, nor would I overlook the well-known principle that the location and the amount of exudate are influences directly proportionate to the severity and the dangers attending a given attack of peritoneal sepsis.

But what relates more especially to this subject of nephroptosis is that the peritoneum, like the integument, differs in its susceptibility to irritations and morbid changes. If necessary, I could still further sustain my view by applying the well-known principle of immunity to this subject, viz., that the cells of the body as well as the blood directly contribute to the terminations of abnormal changes when they are once started.

It must appear plain, then, that proposition No. 1 is proved on the ground of individual differences in the topography (amount of concavity) in the lumbar fossæ behind, and in the support offered by the strength and firmness of attachment of the peritoneum in front. Other influences, although important, are, I believe, chiefly contributory or exciting in character, while the two reasons above mentioned are the predisposing ones.

Among the exciting causes, traumatism, variations in intra-abdominal pressure (gestation, tumors or a relaxed *muscularis of Glenard*), absorption of perirenal fat, occupation influences, or disease of the kidney itself may be mentioned, but generally speaking they are minor in importance.

Proposition No. 2 may be considered demonstrated when I enumerate some of the results of the abnormal range of motion of this organ, which weighs 5 ounces and which has become migratory, namely: the stretching and the uplifting of the peritoneum with the organs which it covers, the direct pressure in one case of the upper pole on the bile ducts and in another of the lower end on the cecum and appendix, the attrition itself on the peritoneum, producing, at least in some people whose resistance or cell immunity is not great, adhesions between adjacent peritoneal surfaces, the crowding of the omentum to the right side and the interference of the adhesions with return circulation and peristalsis—results but the most tangible and easily recognized changes which primarily and seriously impair the health—to say nothing of the reflex disturbances through the sympathetic nerves.

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[18] The clinical results obtained by spinal drainage, in the relief of arterial hypertension, confirm the conclusions of Cathelin (Presse Médicale, vol. ii, No. 90, 1903) with regard to a constant intercommunication between the blood circulation and the cerebrospinal fluid by means of lymph vessels.

With these observations I rest this part of my case. To go into the realm of symptomatology is not my purpose, for the reason that symptoms occupy a scope so wide that one observer has said that the very indefiniteness of the symptoms in some cases should suggest movable kidney. Another mentions that a large proportion of the symptoms of disease in general are represented in movable kidney. I believe that when a movable kidney is causing changes which demand surgical interference the symptoms are fairly represented below in class three.

TREATMENT.

Approaching the treatment of nephroptosis gives us a chance to point out the fallacy, if not actual danger, which must follow teaching which employs too prominently the words "always" and "never" in suggesting therapeutic aid, for surgical rules are not permanently fixed and one who teaches that one plan should be always used or that another method should never be followed, promulgates a doctrine harmful in the extreme.

In this affection I believe that the rational treatment will be fairly reflected by pointing out in a judicial way the following facts:

(*a*) Many cases in which the kidney is sufficiently movable to be plainly palpated do not need any surgical treatment. Hygienic and dietary care, with efforts in the direction of increasing the body weight, are logical measures.

(*b*) In other cases the symptoms are more obtrusive, the degree of mobility greater and the reflex symptoms more pronounced, yet intermittent in character. In an individual who is in a position to follow the above rules (under *a*) and to take conveniently a protracted rest, great amelioration in the symptom and in the position of the kidney can be secured.

(*c*) I will here place that class of patients who manifest the trouble in the most exaggerated form, in which there is a palpable and tender kidney, disturbed digestion, headache, dizziness, emaciation and the passage of a large amount of slime and mucus with the bowel movements, with perhaps nausea and even vomiting with recurrent attacks of jaundice. There will be a history of a dull, heavy, aching, recurrent pain about the right side (the right side being most frequently affected), although the patient will not, as a rule, be able definitely to locate the distress. The pulsations of the abdominal aorta are accentuated. The individual especially complains that she becomes completely exhaused on slight exertion and that she is unable to rest comfortably on the left side. Severe, colicky, renal pain due to twisting of the ureter is not common.

I will not differentiate gallstones (cholecystitis) nor appendicitis, either may exist in a case having a movable kidney which may act as an exciting cause of the latter.

In my experience, which includes 62 cases, I have found the following condition which, so far as I am aware, has not been described, viz.: a kidney displaced downward to a point opposite the last dorsal vertebra and fixed in this position, so adherent as to require most careful separation of adhesions and to make its replacement very difficult.

Meeting these severe cases as well as many others in which reposition of the kidney was fairly easily accomplished, yet in which the adhesions between the kidney and the peritoneal surface were most marked, and then exploring the abdomen to clear up all doubts concerning the appendix and the biliary passage and finding no evidence of inflammation in either, and yet finding the omentum matted in dense adhesions to the ascending colon and to the parietal peritoneum, has led me to the positive conviction that a kidney which has become movable on account of the anatomic peculiarity of the patient and which, for the reasons above cited, has caused definite and severe pathologic changes involving particularly the peritoneum, embarrassing the functions of digestion and assimilation and producing reflex disturbances not surpassed by any other lesion, that such a kidney will not tamely submit to a cure which consists in the delicate adjustment of a double-spring truss, which makes pressure on the anterior surface of the abdomen.

ESOPHAGOTOMY FOR THE REMOVAL OF FALSE TEETH,

WITH SOME REMARKS ON COLON ALIMENTATION.*

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History.—A man, 50 years old, a sculptor by occupation, in good health, on Monday, Feb. 27, 1905, at 11 p. m., in a fit of laughter, dislodged and swallowed an artificial plate of vulcanized rubber to which two false upper incisor teeth were soldered.

This plate, crescentic in shape, measured from point to point along the arch two and one-half inches, the direct diameter between the two points of the crescent was one inch and a half, the widest measurement of the plate at the center, including the teeth, was five-eighths of an inch. (Fig. 1.)

Two hours after the accident he was carried to the city hospital in Cincinnati. The house surgeon introduced his finger deeply into the pharynx, but did not feel any foreign substance. On account of severe spasmodic pains, the patient was given several hypodermics of morphia during that night. At 8:30 the next morning deglutition was extremely difficult, the patient complaining of severe pains in the throat and both sides of the chest.

At 11 a. m. of the 28th he was given a small piece of bread which, after thorough mastication and moistening with a draught of water, was swallowed. The surgeon who then visited him introduced a bulbous bougie into the stomach without recognizing the presence of any obstruction. For the eight days he remained in Cincinnati nothing further was done for his relief. In the meantime, on account of pain, the patient took morphia and sustained himself on soft foods and liquids.

Ten days after the injury he went to Indianapolis to attend to professional business, remained there one day, then to Memphis, thence to Atlanta, returning to Cincinnati several weeks after the accident. He then came to New York to consult Prof. R. C. Myles. The latter had a radiograph made which showed distinctly the outline of the plate lying just behind the upper portion of the manubrium, the convexity of its curve looking upward and toward the patient's left shoulder.

Instrumental examination confirmed the location of the foreign body, which so completely closed the esophagus that the finest bougie would not pass it without using a degree of force which was considered unjustifiable. The patient by this time was much emaciated from six weeks of semi-starvation, for the last four days of which he had swallowed only a small quantity of liquids.

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* Read before a special meeting of the Clinical Society of the New York Polyclinic Medical School and Hospital.

Operation.—I saw the patient, Sunday, April 9, six weeks after the accident. Dr. Myles made several attempts to remove the obstruction by seizing it with esophageal forceps. It was, however, so firmly imbedded that it could not be dislodged. The patient was removed to the private pavilion of the Polyclinic Hospital, and at 3 o'clock on that afternoon, assisted by Dr. Myles and the Polyclinic staff, esophagotomy was performed. Chloroform was selected as the anesthetic, as it was desirable to avoid vomiting during or after the operation.

An incision five and one-half inches in length was made along the anterior border of the left sterno-mastoid muscle, the incision extending one and one-half inches on to the surface of the manubrium. The fibers of the sternohyoid and the sternothyroid muscles were separated by dull dissection, the left lobe of the thyroid body turned upward, and careful traction made on this in order to avoid over-tension of the recurrent laryngeal nerve, which was clearly seen as it came from behind the carotid artery and passed upward and inward in the general direction of the inferior thyroid vessel of that side.

In the exposure of the esophagus at this low level very considerable care was necessary to avoid injury to this nerve. A bougie was carried into the esophagus by Dr. Myles, and on this as a guide I made an incision three-quarters of an inch in length through the gullet on its left posterior aspect. This was gradually dilated by inserting the index finger which, carried down to its full length, barely came in contact with the upper rim of the plate. On the finger as a guide a pair of dull-pointed scissors, curved on the flat, was passed anterior to the plate and slightly beyond it. With this on one side and the finger opposing it, the upper corner of the plate, which was deeply imbedded in the walls of the esophagus, was carefully loosened and tilted upward, and in that way dislodged and brought up lengthways to the wound and extracted without any further difficulty. The wound in the esophagus was left open, while the upper portion of the superficial wound was closed with four or five silkworm gut sutures. The deeper wound was filled with a light packing of sterile gauze. There was no vomiting during or after the operation.

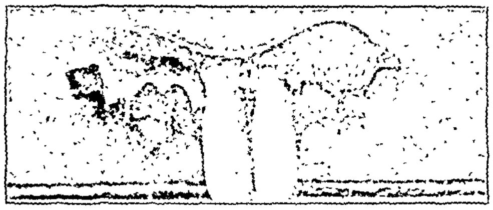

Fig. 1.—Artificial plate. Natural Size.

After Treatment.—The patient was placed in bed on the back, the foot of the bed elevated about twelve inches in order to facilitate drainage upward and away from the mediastinum. Every four hours he received six ounces of normal salt solution by the rectum for the first twenty-four hours. After this the quantity was increased to eight ounces, and in the intervals two nutritive enemata were given. He suffered practically no pain after the operation.

Nothing passed into the esophagus for the four days from Sunday until Thursday, April 13. On this date a tube was easily introduced through the mouth and esophagus and sixteen ounces of milk were carried into the stomach. This was repeated on the next day. On the following day, the 15th, six days after the operation, he began to swallow liquids, and of sixteen ounces of milk given four ounces came out through the wound. The proportion which leaked through gradually diminished by April 20, twelve days after the operation, the esophageal wound was entirely healed, and he is now entirely recovered.

COLONIC ALIMENTATION.

The value of alimentation by the colon as a feature of surgical practice is so important that the following is submitted:

For conveying water by the lower bowel to the blood, normal salt solution should be employed (one teaspoonful of salt to one pint of water which has been boiled and allowed to cool down to the temperature of the body). From six to eight ounces to as much as a pint, and at times more than this, may be employed if absolutely necessary. The foot of the bed should be well elevated so that the liquid will gravitate away from the rectum and thus avoid pressure which induces an effort at evacuation. When there is great intolerance of the lower bowel smaller quantities should be employed with more frequent repetition.

MILK PREPARED BY THE WARM PROCESS.

One of the most useful foods given by the colon is milk. When the bowel is irritable the warm process, which is as follows, should be employed: Put a teacupful (gill) of cold water and the powder contained in one of the peptonizing tubes[1] into a clean quart bottle and shake thoroughly; add a pint of cold fresh milk and shake again; then place the bottle in a pail or kettle of warm water—about 115 F.—or not too hot to immerse the whole hand in without discomfort. Keep the bottle in the water bath for from thirty to forty minutes or longer if a greater degree of pre-digestion seems necessary, then put it immediately on ice. As a portion is needed, shake the bottle, pour out the quantity—usually four ounces—and heat gently to blood warmth. Avoid hasty heating and over-heating.

Six, eight, or twelve ounces may be given every four or five hours, or a larger quantity if the case is urgently in need of nutrition and the bowel is tolerant. In rectal feeding it is of great importance not to overcrowd the colon sufficiently to produce irritation.

COLD PROCESS.

In cases where the enema can be retained for some time without irritation, the milk may be peptonized by the cold process. Put a teacupful (gill) of cold water into a clean quart bottle and dissolve it by shaking thoroughly the powder contained in one of the peptonizing tubes; add a pint of cold fresh milk, shake the bottle again and immediately place it directly in contact with the ice.

Warm each portion as it is required for injection, being careful to avoid hasty heating or over-heating.

Or, only a sufficient quantity to use may be prepared each time by the following method: In two tablespoonsful (one ounce) of cold water dissolve one-quarter of the contents of a peptonizing tube; add eight tablespoonsful (four ounces) of cold milk; warm to the proper temperature and inject at once.

EGGS.

In administering eggs the following formula is advisable: Dissolve the white of an egg in three times its bulk of warm water; to this add the contents of one of the peptonizing tubes, stir well, and inject at once. The water should be just warm enough to make the mixture the proper temperature for the injection, not hot enough to coagulate the albumin.

Another method of using the whole of the egg is to beat the white and the yellow well together, with a pint of milk, adding a gill of water in which the contents of a peptonizing tube has been dissolved. It may be employed cold, but if it is thought best to use the warm method, warm water can be used as in the formula immediately preceding.

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[1] I prefer those prepared by Fairchild Brothers & Foster.

BEEF JUICE.

In using beef for rectal feeding, to a tablespoonful of minced lean beef add four tablespoonsful of cold water, and gradually heat to boiling. Strain all through a fine sieve or colander. When it becomes lukewarm add the contents of one of the peptonizing tubes, and it is ready for injection. More water may be added should it seem desirable.

PEPTONIZED FOOD AND WHEY.

I have used Fairchild's panopepton in rectal feeding with much satisfaction. It should be diluted in two or three parts of lukewarm water, or preferably, normal salt solution.

If it be desired to employ whey, it can be combined with panopepton at times as follows: Put one pint of cold fresh milk in a clean saucepan and heat it to not over 100 F. Add two tablespoonsful of essence of pepsin and stir just enough to mix. Let it stand until firmly jellied, then beat with a fork until it is finely divided, and strain. Warm to the proper temperature and inject without dilution. Panopepton and whey may be used in conjunction by adding three parts of whey to one of panopepton.

Panopepton and peptonized milk may be used by mixing one tablespoonful of panopepton with two or three of peptonized milk prepared by the warm process. Mix the panopepton and peptonized milk when required for use.

THE SUBMUCOUS RESECTION OF DEFLECTED NASAL SEPTI.

THE SO-CALLED KILLIAN OPERATION. REPORT OF CASES.*

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This operation has been credited to various authors, among them being Killian, Hajek, Mensell, Janen, Freer, Krebs, Boenninghaus and others. It is, however, generally spoken of as the Killian operation, and perhaps it will not be amiss for me thus to speak of it in this paper.

The operation consists essentially in a submucous resection of the deflected area, whether in the cartilaginous or bony septum, or both, and the *modus operandi* and technic, while tedious and trying to both patient and operator, yet offer, on the whole, a brilliant and satisfactory result.

The various steps will readily be understood by referring to the illustrations here offered. The incision is made from above down, beginning on the side of the occlusion with membraneous septum and tip of the nose turned abruptly away from the occluded nostril.

This maneuver brings sharply to view the anterior border of the cartilaginous septum. With a sharp bistoury, this linear prominence is traversed from above downward, the incision being just deep enough to bring into view the anterior border of the white glistening septum. The mucous membrane is elevated, together with the perichondrium, on the convexity of the deflection, and this lifting-off process is continued well back of the deflection, extreme care being taken not to push the elevator through the mucous membrane. Should this be done, perforation will occur, especially if a similar thing has been done on the other side. It must be borne in mind that the lifting off of the mucous membrane must extend well up and low down, and that this must be thoroughly done before beginning to remove the deflected area, or else, in the removal, that part of it from which the mucous membrane has not been thoroughly elevated will drag along its mucous cover, and so give rise to a perforation. Having separated the mucous membrane from the septum on the one side, the same proceeding is carried out on the other, starting from the tip of the septum as before, and from the same nostril. At the beginning, it is well to employ a knife in order to make the cleavage exactly between the septum and the perichondrium. Once that this start is made, however, it is best to employ some sort of a periosteal elevator.

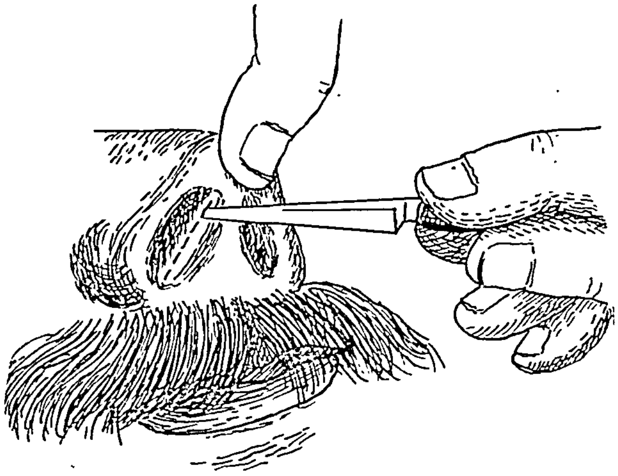
Fig. 1.—First step in operation.

In order to facilitate the peeling-off process, and also to increase one's orientation sense, it is best, and, indeed, I may say that it is a *sine qua non* for the successful performance of this operation, to employ the Killian long nasal speculum, the blades of which extend well back into the nostril. At the outset, it is more convenient to use the ordinary Kramer bivalve speculum. Later, however, as the separation has increased, it will be much better to use the Killian instrument. Once

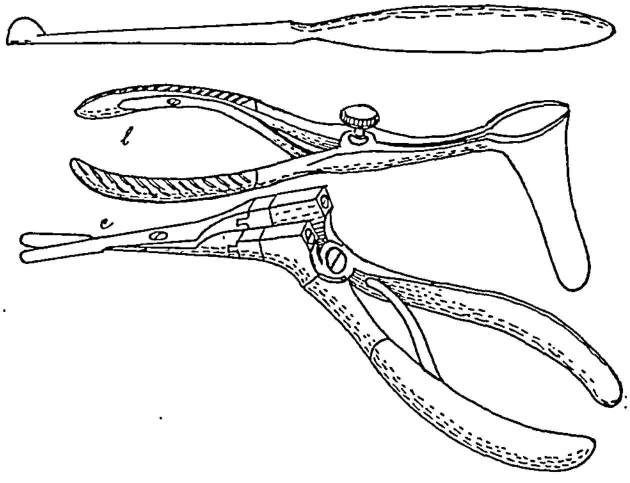

Fig. 2.—a, Combination periosteotome and knife; b, long-bladed Killian nasal speculum; c, Hartmann's conchotome.

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* Read before the American Laryngological Association at Toledo, Ohio.

that some progress has been made on the second side, the speculum may be employed, with the cartilaginous septum between the two blades. This will aid materially in the work, giving a clear idea as to location, etc. (Fig. 2).

Having carefully peeled off the mucous membrane, the septum may be removed from before back (Fig. 3), except the upper part, one-quarter from the roof of the nose. This is important. Hajek believes that the retention of this part of the septum aids in preserving the symmetry of the nose.

The amount to be removed depends on the extent of the deflection, and whether or not it is in the bony part, experience having shown that the vomer can be removed if necessary and no bad results follow. Very generally that part of the septum made up of the perpendicular plate of the ethmoid must also be removed. The instruments employed in the removal of the septum are a pair of scissors, and I usually use the ones after Hajek and Hartman, a conchotome, and a chisel, the latter being used to remove that part of the septum which articulates with the maxillary ridge along the floor of the nose.

By observation and experience it has been impressed on me that the removal of this portion of the septum along the floor of the nose is the most difficult part of the operation, and it is here, too, that one inflicts the most, if not the only, pain in the operation. In my first two cases I employed a rongeur in crushing this bony ridge; this necessitated strong downward pressure, with resultant pain; in one of my cases I used a chisel, placing it where wanted and having an assistant tap it with a hammer.

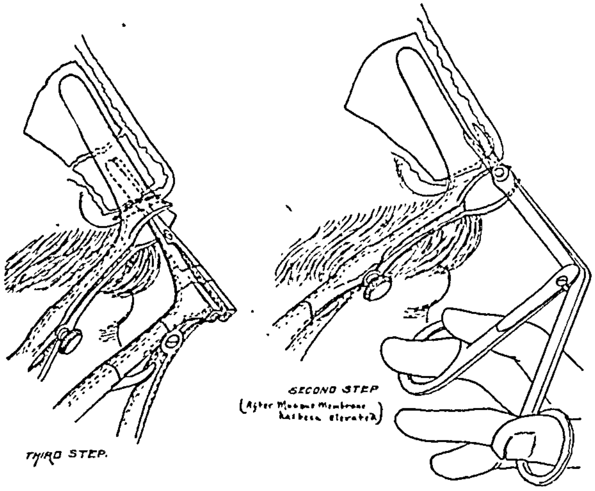

Fig. 3.—Second and third steps in operation.

In beginning the operation, I apply a 20 per cent. solution of cocain to the septum, following this with adrenalin, after which a Schleich solution is injected under the mucous membrane. This infiltration, in addition to bringing about a condition of anesthesia, also aids in lifting off the mucous membrane, paving the way, so to speak, for its elevation and removal. It is well in the removal of the septum carefully to inspect the progress being made,, and in no better way can this be accomplished than by repeatedly inserting the little finger in the nostril and by palpation determining whether the defect is being properly removed. It is astonishing what a keen sense of satisfaction this will impart and how unerringly the operator can proceed.

Having removed the offending part of the septum, the two mucous flaps usually fall gracefully into the middle line. To quote Hajek, the septum is now *"Künstlich dar gestellt besser als es gewöhnlich ist im natur."*

In one of my patients I purposely left small islands of cartilage, believing that this would leave a nidus for future proliferation, and so it has proved, the septum having a no inconsiderable degree of rigidity.

The after-treatment of these cases is simplicity itself, and this is in marked contrast to most of the other operations which necessitate splinting, etc. A loose packing of iodoform gauze is placed in each nostril and allowed to remain till the next day. I do not think it at all necessary to use sutures; indeed, I think it imperative to leave the wound open for the exit of whatever oozing or bleeding there may be. I remove the packing daily for several days, and usually I find no need of replacing it after the third day.

There will be some bleeding and oozing the day of the operation, but nothing of an alarming character, and soon danger from this source is *nil.*

The first case which I report is of peculiar interest, inasmuch as an Asch operation had been performed with negative results, and which left a slight perforation.

Case 1.—The patient gives a history of having sustained a fracture of the nose from the explosion of a cylinder of carbonic acid gas. He noticed that after that occurrence his nostril was occluded on the right side. He suffered greatly from periodic attacks of what he calls hay fever, together with headache and the usual semi-suffocative sensation which these patients have. He also had the marked stuffy nasal voice noticed so often with a deflected septum.

Examination.—An examination of the nose revealed a somewhat unsymmetrical external appearance with a slight depression near the tip. An examination of the right nostril showed a huge deflection which extended well back and involved the bony septum. As the vestibules of the nostrils were large, they were quite ideal for intranasal manipulation. The left nostril was also choked, due to an enlarged inferior turbinal, together with a collection of small polypi.

Treatment.—The polypi were removed and their bases cauterized. The turbinate was also put through the same process. I operated in this case in the manner described, the result being all that could be desired.

Result.—Breathing was re-established on the occluded side. Except for a slight perforation which is not chargeable to this operation, the appearance of the septum is quite ideal. The patient expresses himself entirely pleased, being loud in his praises of this method in contrast with his former operation; especially does he emphasize his gratitude and approval of the absence of the splints, which he thought a species of refined torture. To quote his own words: "I am glad you will not have to put that lobster claw in my nose, for if you do I prefer to leave my nose in its present condition."

Case 2.—The second patient has been the subject of impeded nasal respiration as long as he can remember, and in his position as captain of one of the local fire stations, was much annoyed, as at times he was practically incapacitated from properly pursuing his work, because of his inability as a mouth breather to contend with the smoke encountered on entering a burning building.

Examination.—An examination of the nose showed a bending of the septum to the right, with an inability to breathe through this nostril.

Treatment and Result.—He was operated on by the resection method, and is now able to breathe very well and is satisfied with the results.

Case 3.—The third patient has had difficulty in breathing through his left nostril for a number of years, due, he thinks, to being struck on the nose with a baseball bat. The hearing in his left ear is considerably obtunded, being on the side of the occlusion, a not infrequent concomitant of deflected septi.

Treatment and Result.—He was operated on under local anesthesia and the deflected area resected. With the exception of a small perforation the results were ideal. I attempted to close the perforation with sutures and was partially successful. I believe that if these perforations are closed at once they can be healed.

SUMMARY.

The points reached in this paper may be briefly summarized as follows:

1. Submucous resection of deflected nasal septi can be performed under local anesthesia with but relatively a small amount of pain.
2. This operation offers the most certain results in all deflected septi, whether in the cartilage or bony septum, or both.
3. The sagging back into the former pathologic position, as is often seen in other operations, notably by the method of Asch and by the use of the punch, can not occur with this operation. The offending area is removed, and hence is not susceptible of recurrence.
4. The correction of this condition by an operation without the necessity of employing splints places it well in the foreground from a humanitarian point of view, for, say what we will, splints are painful, do not always accomplish their purpose, and make the operation unpopular. Any operation which does away with their use can safely be accepted as a valuable step in advance.
5. The after-treatment with this operation has been cut down from four to six weeks by the old method, to two weeks at the most. It is painless, less apt to have sepsis, and with care perforation can be avoided.
6. It has been said that this method takes too long, but that can not be rightly charged to the operation.
7. In conclusion, this operation offers the most rational, the most certain and the most enduring results. It is not so hard to perform as it looks, it requires no special instruments beyond what are usually found in a rhinologist's armamentarium (except a Killian long-blade nasal speculum), and, lastly, with this operation we have been given a means of overcoming what has been, to a considerable extent, a reproach to rhinology, the non-successful septum operation.

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INSANITY AT PUBERTY.*

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Though pubertal insanity is rare it is important not only because many patients die and others are left permanently demented or imbecile, but also because in many of those who seemingly recover the attack is a warning of liability to mental breakdown later in life. Since the true cause of insanity is largely within the individual, is part and parcel of his mental makeup, depends relatively little on the mere accidents of his external life, his environment, and much on his ancestral history, and since the exciting causes merely give opportunity for insanity to arise, any mental abnormality occurring during the developmental period is of importance, however trifling it may seem in itself, as indicating mental instability or a tendency toward deviation from the normal, which under proper education may be corrected, but which if left uncorrected will certainly lead to disaster in the future.

Mental disease appearing in childhood, at puberty, during adolescence, or indeed at any period of life, indicates that the patient possesses less than the normal power of resistance to stress, whether it be the mere ordinary wear and tear of life, the exhaustion of bodily disease, mycotic infection, or vicious habits. Persistent recurring somnambulism, outbursts of causeless violent anger, frequent night horrors and day horrors in children are all signs of nervous and mental instability which can only be corrected by the greatest care and wisdom in education. Since puberty is the first and greatest period of mental and emotional stress it is not remarkable that then insanity greatly increases in frequency. At this time also it begins more nearly to resemble the clinical picture seen in the adult. In childhood its manifestations are simpler than in the adult because the mental and emotional life is simpler. The mental life of the insane is based on perverted reminiscences of past experience and is rich or barren, simple or complex, as the previous life was full or empty. Complete dementia alone pulls down all ages and all intelligences to the dead equality of mindlessness. The insane child may suffer from maniacal outbursts, emotional or intellectual depression, hallucinations, transitory delusions, obsessions and imperative impulses, and he may, of course, from the violence of the disease, be left demented or imbecile, but he cannot present the rich growth of delusions shown by his elder brother. He who has never heard of kings can not have the delusion that he is a king, and only those who have had strongly impressed upon them the dogma of the unpardonable sin can believe they have committed it. He alone can think he is persecuted who has learned something of the real persecutions that exist in the world. The child cannot show the curious perversions of logic of the adult paranoiac because logic itself is only just beginning to appear in him. The adult chronic reasoning maniac often possesses rich wit, perverted yet real. The boy shows only an impish mischievousness. As gradually, at puberty and through adolescence, the emotions broaden and deepen, sexual feeling appears, pure egotism normally becomes less marked and intellectual judgment comes into being, insanity conforms more and more to the adult type.

The study of psychiatry has been much hindered in its progress by the fact that we arbitrarily confine insanity within very narrow limits and pay but little attention to mental symptoms outside its boundaries or too often content ourselves by explaining them on the ground of viciousness. Much seeming viciousness is real disease. Psychiatry needs for its material for study not only the inmates of asylums and hospitals, but also the world at large, both old and young, well and ill. Wise schoolmasters know more about the normal and abnormal development of children than many physicians and could throw much light on obscure problems of mental disease. Unfortunately many schoolmasters are not wise, but foolish, mere hearers of lessons and correctors of exercises.

The types of insanity occurring at puberty and adolescence are as numerous as the types of boys and girls. Everyone is probably a little unbalanced at this time. This is physiologic. It is associated with sexual development and dependent on it. The healthy boy of healthy stock, even though his environment may be far from the best, passes through this period successfully and finally reaches stable equilibrium, the other now begins to show signs of abnormal development which later will grow into some distinct form of insanity. Probably the most common type, though seldom seen by alienists, and but little studied because its victims rarely get into asylums, or, indeed, receive medical attention at all, is a slowly oncoming weakening of the mind without delusions or hallucinations, a more gradually increasing disability for mental work, usually stopping far short of complete dementia. Every schoolmaster knows the type. A boy who before puberty was bright, learned quickly and was interested in all things which make up a boy's world, begins to be inattentive, learns less and less readily, loses all ambition, no longer wishes to do things, ceases to have interest in play, becomes asocial and physically inert. He may present no moral abnormality, indeed, frequently his moral nature is of the best. The difficulty is entirely intellectual. His final state is that of mild dementia coming on slowly, not the result of any acute infectious disease, nor of masturbation, but caused by an inherent, congenital inability of the organ of mind to withstand stress. He is born with potential power enough to develop up to puberty or the earlier years of adolescence and then dissolution begins. In mild cases dementia is too severe a word, there is only slight feeble mindedness, and the boy who gave promise of being a leader or at least a successful man becomes only fit to take a very subordinate place in the world's army of workers. In another type there is added to the mental defect, or, indeed, overshadows it, gross moral aberration. The child who was average up to puberty begins then to have outbursts of causeless anger, to be cruel, to forget all he ever learned of his duties to others, to chafe and fret under restraint, to lose self control, to be a creature of impulse and passion and a slave of bad habits. He may in power of reasoning be equal or even above the average. Many of the criminal class are of this type. They are rarely recognized as insane in their earlier years, but if they escape being hanged or the diseases which nature uses to kill off the unfit they eventually frequently die in asylums with chronic mania or some secondary dementia.

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* Read at the meeting of the Association of Medical Officers of American Institutions for Idiotic and Feeble-Minded Persons, Vineland, N. J., 1905.

Another type, which has its beginning at puberty or early adolescence, though its full development is not reached till adult life, is the so-called original paranoia. There is no doubt that a clinical picture indistinguishable from original paranoia may appear in people whose childhood and youth showed no signs of mental disease, but frequently it is merely the natural development of a nature that from its conception was twisted, warped and abnormal. The boy normal before puberty then begins to be eccentric. He becomes vain of his ability, thinks he is of more importance than his parents and relatives, and that he is not treated with proper consideration. Sometimes he is a great student of many things, reading much and learning little, though, being plausible, he may deceive others as he deceives himself into believing that there is a great future before him. Egotism grows to such proportions that finally he believes he owes no duty to the world but everyone owes duty to him. All who live with him must give way to him. He must always have his way and for the sake of peace parents and brothers and sisters give it him. He has much religiosity but no religion. He day-dreams much of sexual matters, either with a sickly sentimentality or bestiality, or he may mix the two. He may have ideas of great inventions that never work. Soon or late he turns against the world that will not bother itself about him and being sure of his real greatness explains it by the delusion that people are persecuting him therefore. He thinks he must be great or people would not abuse him. They are envious of him. In paranoia egotism reaches its maximum. It may be acquired but more often is congenital. Paranoiacs are as a rule like poets, born, not made.

In the above described types only the prodromal symptoms, if one may call them so, appear at puberty, the disease not reaching its height until adult life. Acute insanity also occurs at puberty and, though rare, is sufficiently frequent to be of interest. It may arise without any discoverable external cause, or may follow an acute infectious fever (especially typhoid), fright or excessive masturbation. The last, however, is often a sign of degeneration rather than a cause of insanity. The following is a typical case of acute mania, the exciting cause of which I could not discover:

CASE 1.—The patient was a boy 13 years old. His mother stated that he had always been healthy. He was a cash boy in one of the large stores and had worked hard. He was a reader of dime novels and a cigarette smoker, but had shown no sign of sexual feeling. He was brought to the Philadelphia Hospital in March, 1903. One week before admission he suddenly became violent. It was stated that previously he had shown no evidence of ill health, but his people are not intelligent and certainly are unobservant, and it is very possible that prodromal symptoms were overlooked. However that may be, he became suddenly violent, cursed and swore, complained of pain in the head, slept little and raved all the time. When I examined him I found a thin, pale-faced, frightened-looking boy with widely dilated pupils, dry skin, without fever, and with a strong pulse. The knee-jerks were large. He was very dramatic, gesticulating and pointing with his fingers. He talked unceasingly of Indians, burglars and murderers. He paid only momentary attention to questions asked him, sometimes beginning an answer but soon wandering off; more frequently he kept up his raving. He lived in his own world, and his train of thought was not influenced in any way by the things going on around him. He did not, as is usual, take up words or sounds or sights as a basis for his train of thought. He would eat food set before him, talking all the time, but never asked for it. At first he slept very badly, but later fairly well. He paid no attention to his bladder and bowels. His emotional state varied between elation and fright, but there was never mere depression. After a few weeks he began to improve. He would answer short questions, talked less and less about the Indians, burglars and murderers. He saw and paid more attention to what was going on around him. He did not pass through a stage of depression, but went directly but slowly from the period of excitement to that of normal life. In about three months he regained health.

CASE 2.—Another boy, also 13 years old, is probably best classified as a case of acute confusional insanity. He had arrived in this country from Russia only a short time before his admission to the hospital, having made the journey alone. Whether his illness was the result of homesickness and fright at being alone so long or whether there was some mycotic infection is impossible to determine. We obtained only a meager history of the onset of his illness. It appears that on his arrival in Philadelphia from New York he appeared frightened and excited. He understood little that was said to him and talked incoherently. At times he would sing. He was somewhat violent at times, but could always be controlled. He would not eat. On admission to the detention ward he was highly excited, continually shouting, singing, whistling. By the time he was transferred to the insane department, a week later, he had become much quieter. Apparently there had been some slight improvement in his mental condition. Though excited and at times noisy, and though he had still to be fed with a stomach tube, his attention could be held long enough for him to answer a question. He remembered that he had been seasick on the journey across the ocean, but did not remember being in his uncle's house. He did not remember being brought to the hospital. Indeed, his mind was entirely blank concerning everything from the time of his arrival in New York until he found himself in the hospital a couple of days before the examination. (His relatives stated positively that he seemed entirely well on his arrival at New York, so it would seem that his illness obliterated all memory or at least power of recollection of events that had happened during some days previous to the onset of his illness.) It must not be thought that he made the statements above given consecutively and quietly in answer to questions. On the contrary, he was very confused and excited during the whole time, and only now and then could hold himself in enough to talk coherently for a minute or two. He improved a little for several days and began to sleep well, though he still had to be fed. Very soon, however, he became excited again, and later stuporous and very weak so that he could not stand. Finally, four weeks after the onset of his illness and while still stuporous, he had a violent nose-bleed and died in a few minutes. For several days before death his gums were slightly swollen and oozed a little blood. His urine was free from albumin, sugar or casts. It was acid and of a high specific gravity (1034). A blood examination a week before death revealed 5,270,000 erythrocytes, 14,000 leucocytes and 72 per cent. hemoglobin. At necropsy the brain was much congested throughout. There was marked congestion of the trachea and bronchi. The lungs were congested and in places carnified. There were some old slight pleuritic adhesions. The stomach contained about six ounces of milk and eggs, but no blood. There were a few pinhead-sized submucous gastric hemorrhages. The thyroid gland, kidneys and intestines were normal. I confess I am entirely ignorant of the exciting cause of his illness. Whether it was the mental shock resulting from a young boy traveling several thousand miles and suffering a large part of the time from seasickness or whether what he called seasickness may have been some acute infectious fever is, of course, indeterminable. The pathologic condition found in his lungs arose, I am sure, after the onset of his mental symptoms.

The influence of mental shock in causing insanity in children is shown by the following case:

Case 3.—The patient was a schoolgirl 14 years old. She had always been a nervous, delicate child, but was bright, active and full of energy. One day she was almost run over by a carriage. She was not injured physically, but was much frightened. She ran home and fell in collapse in the hall. She was kept in bed two weeks, during which time she was in a state of constant terror. She then improved a little and was allowed to get out of bed, but when I saw her, about five months later, she was still ill. She was afraid to be left alone or in the dark. She had frequent attacks of weeping and was greatly depressed, sitting for hours saying nothing and answering questions only in monosyllables. Whereas previously she had been fond of reading she now cared nothing for books and could not be taught anything. She never played and never smiled. Her expression was vacant. She knew perfectly well where she was and who she was, had no delusions or hallucinations and answered questions intelligently, but she was listless and inert and took no interest in anything. Her memory for recent and remote events was good. Her appetite was poor, her sleep troubled. Physically she was pale and thin, with cold bluish-red hands and dilated pupils. The deep reflexes were exaggerated. I advised that she should be sent to the country, fed on milk, eggs and vegetables, made to take outdoor exercise and given long hours of rest. What the result was I do not know, because she dropped out of my sight.

The acute infectious fevers, chorea and acute articular rheumatism are responsible for a large number of the cases of mental disease occurring during childhood, puberty, and adolescence. Whether mycotic infection or the exhaustion consequent to disease is the direct cause is still undetermined. Probably both act. Certainly the mental symptoms that occur early in the course of fever are directly caused, sometimes by the fever itself, sometimes by bacterial poisoning. In the later cases beginning during convalescence mere exhaustion and malnutrition of the brain is a sufficient cause. Post-febrile insanity is so infrequent that it is impossible to state with any certainty which one of the infectious fevers is most liable to be followed by it. Scarlet fever, measles, and typhoid fever seem to be the most important. In typhoid fever delirium is really a symptom of the disease. Almost no case of any severity escapes it. The more dangerous cases are those in which insanity begins during convalescence. Sometimes the only symptoms are permanent weakmindedness or marked imbecility. The amount of mental defect left varies greatly. There may be only slight obtunding of the faculties, a boy previously bright becoming dull and ordinary, or imbecility may be so great as to need permanent institutional treatment. On the other hand the patient may pass through an attack of mania, melancholia or stuporous insanity and recover or be left with more or less dementia.

Since Kraepelin's extensive and exhaustive studies, much has been written on the subject of dementia precox. It has become a very inclusive title, taking in almost all types of insanity occurring during puberty and adolescence and not a little of the insanity of adult life. It surely is not a distinct and definite disease as are paresis and typhoid fever, but serves a purpose in grouping together certain cases more or less similar in clinical aspect. The following case may be classed here as conveniently as under any of the heads under which insanity accompanied by stupor has been put.

Case 4.—The patient is a white, native American boy, 14 years old, who was admitted to the Philadelphia Hospital in September, 1904. His mother stated that in July she noticed that he was acting strangely. He would take off his clothes and wander about the house. He slept badly and passed a large part of the night walking aimlessly up and down stairs. Soon he became taciturn and ate but little. A few days before admission to the hospital he became excited, accused his mother of poisoning him and refused to eat. When he was brought to the hospital he was well nourished. He talked little, saying he was sick and had had pains all over his body for about a week. He said nothing about having been poisoned. He was stubborn and rarely answered a question. He would take food, but never asked for it. He lay quietly in bed most of the time, but sometimes wept and whimpered, for which he gave no explanation. His pupils were widely dilated. The knee-jerks were absent. The eye grounds were normal. In November he suddenly beame stuporous. He lay perfectly quiet, paying no attention to anything, passed urine and feces in bed, made no attempt to swallow food put to his mouth, and showed no sign of sensibility except that if a leg or arm were sharply pinched he would withdraw it. He obeyed no commands, however simple. Talking to him caused, as I have frequently seen in other patients, great dilatation of the pupils. The knee and Achilles jerks were absent. The plantar jerk was normal and the abdominal reflexes present. There was no rigidity of the spine, but any attempt to open his mouth to feed him caused him to hold it tightly shut. Sometimes he was cataleptic in slight degree, but most of the time a leg or arm raised in the air fell so soon as support was removed. He rapidly lost flesh and color and became much emaciated. His hands became clammy and blue. He remained in this condition of apparent stupor until January 3, when for the first time he began to chew food put in his mouth. January 28 he began to talk, saying he was hungry, and asked for milk and a banana. Next day when another boy patient asked him how he was he swore roundly. As yet he would not answer a question or obey a command. Almost a week before beginning to speak. his hands resumed their natural color and he put on a little flesh. By March 12 he began to talk more, would feed himself, would obey commands and answer questions and ten days later he was perfectly conscious, was interested in things around him, talked like a normal boy and ate well. He had gained much weight and color, but was so weak that he could not stand alone. He remembered and related to us many things that happened in the ward during his apparent stupor. When asked why he had refused to talk for so long he said he didn't know. He guessed it hurt him. He rapidly improved in strength and to-day (April 22) is a fair example of the average street boy—bright, tricky, and with none too much moral sense.

The most interesting symptom in this case was the stupor lasting about three months. Stupor is an inappropriate name for the condition, but its use has become so universal that it probably would now be impossible to displace it. Stupor should mean a condition of stupidity with great but not complete obscuration of consciousness. This boy's condition was not loss of consciousness, but absence of evidence of its presence. As a matter of fact, he was conscious all the time, as is proved by the fact that he had a clear remembrance of what occurred while he was apparently unconscious. His condition was probably caused by aboulia, a paralysis of the will, an inability to will to do anything. In some patients refusal to talk, to eat and to obey commands is surely dependent on a delusion that they can not or must not eat. Sometimes, indeed, after recovery patients will so explain the condition, but a patient's reason for his previous conduct is not always to be accepted as accurate. As a rule the apparent stupor passes off suddenly after sleep, but in this boy the return of normal mental function was slow, and occupied many days. Sometimes the condition lasts many months as in a young man at the Philadelphia General Hospital, who has been in apparent stupor for two years. Sometimes also there may be long periods of stupor alternating with periods of more or less normal consciousness.

When cases of general paralysis were first reported as beginning at puberty and adolescence much skepticism was expressed as to their genuineness. To-day, however, it seems proved that though very rare, paresis may occur at an early period in a child whose parents are syphilitic. The influence of other chronic organic brain diseases in causing insanity in children and youths has been studied but little.

CASE 5.—One patient I have seen could be classed roughly as an imbecile but I believe his illness has been caused by some slowly oncoming organic brain disease. He is now 16 years old and his present illness dates from his twelfth year. He was healthy at birth. He was breast fed for eleven months. He began to walk and to talk at the proper time and developed normally until the twelfth year. Then he began to suffer from headache. He was taken from school a year later on account of his health. He began to fail mentally and several years later it was noticed that he was awkward in the right leg in walking. He continued to complain of headache, became mentally weaker and hard to manage. When I examined him he showed some spastic palsy of the right leg with flat foot, abortive ankle clonus on the right side, and increased knee jerks on both sides. He had no other sign of physical disease except some slight post-nasal adenoids which were later removed without influencing his mental state. The eye grounds and visual fields were normal and permit me to say, for the sake of those who believe refractive or ocular muscular disturbances cause all ills, that two excellent oculists could find no excuse for treating him. He was rather short for his age but of good weight and color. Mentally he was very deficient. He could scarcely read. He showed no evidence of sexual feeling. He had no boy friends, indeed scarcely any acquaintances, because he always quarreled with them. He had frequent attacks of anger but was never sullen. His memory for remote events was good but for recent occurrences very poor. Some things he had done two days before he had no remembrance of. He was never cruel. He was clean in his person but careless in dress. He was entirely self-centered and showed no affection for his parents. He was physically lazy and took no interest in outdoor sports. In short he is to-day rather a high grade imbecile but I think the cause is some unusual and obscure form of organic brain disease. The whole course of his case has been slow and did not result from any acute infectious fever or indeed acute disease of any kind. There is no history of parental syphilis and he does not show any physical sign of it and bore anti-specific treatment only well enough to make that test of no value.

There is not time to discuss the occurrence of acute insanity in imbeciles. It is not infrequent and may come on at any age, but most usually at puberty or during adolescence. One of the most important of the mental diseases is hysteria. It is customary to arbitrarily separate it from insanity or to speak of hysteria and hysterical insanity as if they were two distinct things. As a matter of fact hysteria is a disease of the organ of mind quite as much as mania. In children it usually manifests itself by convulsions or by those curious affections of the larger joints. In my own experience I have more than once found it very difficult to decide in youths whether a given case was one of hysteria or the stuporous insanity of adolescence. In the rare cases of insanity which are seen at the very beginning when the patient will submit to careful ocular examination the character of the fields of vision is of great aid in making a diagnosis. In dementia precox the field of vision is normal or else almost normal at the beginning of the examination and rapidly grows smaller as the examination continues. There is never complete reversal of the color field and tubular vision is never present. In hysteria contraction of the fields, if present at all, shows itself at the beginning of the examination and, of course, reversal of the fields is common and tubular vision not very rare. Hysteria is not followed by dementia and, indeed, we may say that in youths the attack is practically always recovered from. The importance of hysteria at puberty is that it is a sign of danger to come later in life.

The proper treatment of insanity at puberty is prevention, in other words, education. When we pay more attention to teaching self-control and clean morals, when those whom Nature intended to lead a quiet life do not try to lead the strenuous life, and when parents get wisdom insanity will greatly decrease. But these things are in the very distant future.

LIPOMA OF THE PRETIBIAL TRIANGLE OF THE KNEE.*

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Behind the patellar ligament is a triangular space formed by the capsule and the tibia. The tubercle of the tibia, to which the patellar ligament is attached, is situated about an inch below the joint-surface and half an inch in front of it, since the tibia slants backward from the tubercle to the joint. The capsule runs upward and forward from the upper border of the tibia, and is inserted into the lower edge of the patella. The patellar ligament is thus entirely outside of the joint, and so is the triangular space, the lateral boundaries of which are formed by the strong expansions of the fascia lata, called the lateral ligaments of the patella. This rough triangle is loosely filled with fat, which gives the capsule room enough to fold up during extension of the leg and allows it to conform to the condyles of the femur during flexion.

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* Read before Chicago Medical Society, 1905.

When it is not abnormally enlarged, this pad of fat can hardly be felt, and there is usually a slight hollow on both sides of the patellar ligament. After an injury, however, such as a bruise or strain, there may be a marked increase in the size of the fatty mass, possibly by the organizing of a blood-clot, or perhaps by a direct growth of the fat-tissue itself from the stimulus of the traumatism. This hypertrophy may not disappear, and may even increase gradually until flexion and extension of the leg are materially limited by the mechanical interference of this dense wedge of tissue. If the leg be forcibly flexed, the patellar tendon and its lateral ligaments or expansions are made tense and the pad of fat is compressed against the tibia and the condyles and forced out on both sides of the tendon, bulging outward under the more yielding lateral ligaments until the limit of compression is reached. If the leg be extended the notch between femur and tibia is narrowed and the pad is again compressed, though not so much as in flexion.

These motions, when carried beyond the self-established limits, are painful, and there is at all times a sense of unpleasant tension over the front of the joint. The interference with flexion is so marked in many cases as to cause serious disability. When the patient seeks advice he is apt to be treated for tuberculosis of the knee joint, the chronic swelling and the limitation of motion being responsible for the mistake. A careful examination will show that the limitation of extension is due, not to spasm of the hamstring muscles, as it invariably is in tubercular disease, but to a mechanical impediment, the hamstrings remaining relaxed.

An intracapsular effusion, such as is found in chronic synovitis, will be discovered above the patellar border, while the lipomatous pad never reaches above the level of the middle of the patella and there is present neither fluctuation nor floating of the patella.

A villous proliferation of the lower border of the capsule could be differentiated by the extent and peculiar feel of the villi.

A chronic bursitis of the small bursa lying under the insertion of the patellar ligament offers the greatest difficulty in differentiation unless fluctuation can plainly be elicited.

This lipomatous condition is much more common than is generally believed. The patients are mostly young and active men, who pay little attention to the slowly-progressing affection until it becomes a serious handicap to their working ability, and this usually takes five or six years.

As all of my cases preferred operation to more time-consuming methods, I have had no experience with the treatment by adhesive plaster strapping, or by the injection of such drugs as iodin or alcohol, which at best are uncertain.

The radical operation is safe and simple. A small incision two inches long is made just to the outer side of the patellar ligament. This is carried down through the strong fascia lata expansion, the so-called lateral patellar ligament, and the fatty mass is seen bulging up into the wound. This fat is seized with strong artery forceps and twisted out bit by bit, the twisting being far better than excision, because it prevents an annoying hemorrhage. The finger and forceps can readily be passed under the ligament to the inner extremity of the triangle, and no incision need be made on the inner side of the tendon. The reason for making the original and only incision on the outer side of the tendon is that if the lateral fascial ligament should fail to unite, there would be no tendency to the condition known as "slipping patella," which practically always occurs outward. After all the fat has been removed from the triangle, and all bleeding arrested, the fascia is carefully sutured with chromicized catgut in a separate layer, and the skin sewed with a subcuticular stitch of silkworm gut or wire. No drainage should be used. A sterile gauze dressing is applied and covered with a thick pad of non-absorbent cotton. A long posterior splint is bandaged on firmly, and the springy cotton makes sufficient pressure to prevent the oozing of blood into the triangle. The patient can be allowed to walk in a day or two, but the knee should be held stiff by the splint for ten days to allow the fascia to unite firmly. At the end of that time the splint is removed and the skin suture pulled out, and the leg can then be used freely.

The results in all my cases have been perfectly satisfactory, and the full normal range of motion has been possible as soon as the dressings were left off, even in the cases where great limitation had been formerly present. There has been no pain after the operation. If, through some misfortune, infection should occur, it would be entirely outside of the joint and could not endanger the mobility of the knee. I have not as yet attempted the operation under local anesthesia, fearing that the avulsion of the fat would cause too much pain.

100 State Street.

Special Article

IMMUNITY.

CHAPTER XVIII.

PRINCIPLES OF SERUM THERAPY.

In the strict sense serum therapy means the injection of antitoxic or antibacterial serums for curative or prophylactic purposes; this is passive immunization or direct serum therapy. Active immunization, in which the tissues of the individual are induced to form antitoxins or antibacterial substances as a result of vaccination or protective inoculations, may be considered as indirect serum therapy. We may, therefore, include the latter as one of the serotherapeutic measures.

Bearing in mind the significance of the terms active and passive immunization, and the fact that they may be used for curative and prophylactic purposes, the various procedures may be classified as follows:

I. PROPHYLACTIC INJECTIONS.

A. Active immunization, in which vaccination and protective inoculations are included, as with the organisms of typhoid, cholera and plague. Depending on the material injected, the result is the formation of antitoxins or antimicrobic substances (amboceptors); agglutinins are formed incidentally.

1. Inoculation of virulent organisms; antibacterial substances are formed. (*a*) Inoculation with small amounts of a virulent organism, i e., of a non-fatal dose; used principally in experimental work. (*b*) Inoculation with virulent organisms into a tissue which has some natural resistance. The success of vaccination against smallpox by using virus obtained directly from the diseased, a method which was practiced in earlier times, was probably due to the fact that the virus found unfavorable conditions for the development of virulence in the skin. In some instances vaccination is more successfully accomplished by direct inoculation of virulent organisms into the blood stream (Kitt's method of vaccination against symptomatic anthrax).

2. Injection of attenuated infecting agents: Attenuation by air and light (chicken-cholera, Pasteur); by cultivation of the microbe at high temperatures (anthrax, Pasteur); by

chemical agents (anthrax, Roux; diphtheria and tetanus toxins, Behring and Roux); by desiccation (rabies, Pasteur); by passing the virus through other animals (swine erysipelas, Pasteur). This last observation was a most instructive one; passing the bacillus through the rabbit several times increased its virulence for the rabbit but decreased it for swine, while passing the organism through the dove increased its virulence for swine.

3. Injection of killed organisms (anthrax, Toussaint; swine plague, Salmon and Smith). This method is of the utmost importance in human diseases, as it is the safest means of vaccinating against cholera, typhoid and plague. In the Pasteur treatment of hydrophobia the first injection of the dried spinal cord probably contains the killed virus.

4. Injection of bacterial products. (*a*) Bacterial cell plasm (Buchner's plasmin, obtained by submitting the organisms to high pressure, and Koch's tuberculin TR). (*b*) Soluble bacterial products (the bacterial proteins, as Koch's old tuberculin and mallein; the soluble toxins; products of bacterial autolysis). When toxins are injected antitoxins are formed. The autolytic products of some organisms, e. g., typhoid and dysentery, cause the formation of bactericidal amboceptors and agglutinins, but not antitoxins.

B. Passive immunization: the prophylactic injection of antibacterial and antitoxic serums.

C. Mixed active and passive immunization; the simultaneous injection of an immune serum with the corresponding organism which may be killed or living. The serum increases the resistance of the animal at once and, in the meantime, a new and more permanent resistance develops which is due to the formation of antibodies. This method has been practiced with swine plague, swine erysipelas, rinderpest, and experimentally in typhoid, cholera and plague.

II. CURATIVE INJECTIONS.

A. Active immunization.

1. Injection of killed micro-organisms in small doses with the intention of hastening antibody formation (Fraenkel in typhoid fever); value not yet demonstrated.

B. Passive immunization.

1. With antitoxic serums: diphtheria, tetanus, snake bites, plague, tuberculosis (?), typhoid (?), streptococcus infections (?), etc.

2. With antibacterial serums: typhoid, cholera, plague, dysentery, streptococcus (?), staphylococcus (?) and pneumococcus (?) infections.

General Strength of Serums.

In general, serums to be effective must have a certain strength. When diphtheria antitoxin was first used preparations were put on the market which contained twenty or fewer antitoxin units per cubic centimeter, rendering necessary the injection of 150 c.c. or more in order to introduce 3,000 units. Much of the criticism which was offered at first was not because antitoxin injured the patients, but because it caused no improvement, the explanation of which lies in the low value of the serums used at that time. If diphtheria antitoxin now contains less than 250 units per c.c. it is considered unfit for use; many serums contain 500 or more units per c.c.

Antitoxic and other serums should, of course, be free from micro-organisms and toxins. The cases of tetanus which developed in St. Louis following the injection of diphtheria antitoxin will be remembered. With correct governmental supervision of the manufacture of serums such accidents are entirely preventable.[1]

For the sake of simplicity we may consider the principles involved in serum therapy under the three topics of antitoxins, bactericidal or antibacterial serums and vaccination.

Antitoxins.

It has been sufficiently emphasized that neutralization of toxin by antitoxin implies a chemical union between the two substances. When the two are mixed outside the body at a given temperature and at a given concentration, the rapidity and completeness with which the union occurs depends only on the degree of affinity which one has for the other. There is no third substance with which one or the other may unite. In the body, however, the conditions are more complex; in this case two combinations are possible for the toxin, one with the antitoxin which has been introduced and a second with the tissue cells. As an instance of the great rapidity with which toxin may unite with cells, the work of Heymans with tetanus toxin may be cited. "Heymans found that, if all the blood were removed from an animal a few minutes after the injection of a single fatal dose of tetanus toxin and the blood of another animal substituted, still the animal died of tetanus" (Ritchie); that is to say, all the toxin had been bound by the cells in that brief time.

Experiments with Antitoxins.

Other experiments show that quantities of toxin and antitoxin which are neutral when mixed before injection are not entirely neutral if injected separately and at different points of the body. In this instance some of the toxin has had time to unite with tissue cells before it could come in contact with the antitoxin.

Certain work by Dönitz illustrates not only the rapidity with which toxin may be bound by the tissue, but also the method by which antitoxin effects a cure. In relation to tetanus he found that if the toxin were injected first and the antitoxin four minutes later, a slight excess of antitoxin was required to prevent the development of tetanic symptoms; if he waited eight minutes, six times as much antitoxin; after sixteen minutes, twelve times as much; after one hour, twenty-four times the simple neutralizing dose was required. A few hours later no amount of antitoxin could save the animal. Similar conditions were met in the neutralization of diphtheria toxin by its antitoxin in the body. Madsen, in performing what he called "Curative Experiments in the Reagent Glass," found that the longer tetanolysin had been in contact with erythrocytes, the more antitetanolysin was required to tear away the toxin from the corpuscles. Practical experience with diphtheria also indicates that the longer the disease lasts the more antitoxin is required for cure.

The experiments just cited give us a clear conception as to what is meant by the curative action of an antitoxin—an action which consists not of the neutralization of the circulating toxin, but of the wresting away from the tissue of the toxin which has been bound. Incidentally the circulating toxin is neutralized, which is essentially a prophylactic process. For the wresting away of not a mere equivalent amount of antitoxin, but a great excess, is required, a condition which some have compared to the mass action of chemical substances.

Antitoxin and Toxin.

When diphtheria or tetanus has advanced so far that no amount of antitoxin will effect a cure, the relation of the toxin to the cells has become something more than mere chemical union. Further processes of a biologic or biochemic nature have set in in which the toxin may have become an integral part of the protoplasm, and the toxophorous group may have begun its destructive action whatever the nature of this action may be.

It is important to recognize that antitoxin can not repair an injury already done by the toxin. The repair of the injury depends on the recuperative power of the cells, hence antitoxin cures by tearing from the cells, perhaps not all, but so much of the toxin that less than a fatal dose remains in the cell.

We may learn from the experiments of Dönitz and of Madsen two important principles of antitoxic therapy: First, that of early administration, i. e., before a fatal amount of toxin has been bound, and second, the necessity of injecting a sufficiently large amount of antitoxin.

The comparative study of diphtheria and tetanus has clarified the principles of antitoxic therapy to no small degree. Knowing that diphtheria antitoxin has a much greater curative value than tetanus antitoxin, we find some conditions which would seem to explain the difference, at least in part.

In regard to tetanus we have the following facts: In the test-glass the affinity between the toxin and antitoxin is

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[1] See appendix to this chapter.

Tetanus.

rather weak; since approximately forty minutes are required for complete neutralization (Ehrlich). On the other hand, the experiments of Dönitz and of Heymans show that the affinity of the toxin for nervous tissue is exceedingly strong, all the toxin being taken up within a few minutes. These two conditions alone suggest the probability of a low curative value on the part of the serum. The toxin of tetanus also has a remarkable selective action on the most vital of all organs, the central nervous system, hence a lower grade of injury may prove fatal than in other infections in which less important organs or those of greater recuperative power are involved chiefly. Furthermore, it is thought by some investigators (Meyer and Ransom, Marie and Morax) that tetanus toxin is taken up by the nerve endings and reaches the ganglionic cells by way of the axis cylinders. In this instance the toxin, to a certain extent, is isolated and perhaps less accessible to the action of antitoxin.

Diphtheria.

Concerning diphtheria, the affinity between toxin and antitoxin is relatively strong, for complete neutralization in the test-glass takes place in about fifteen minutes (Ehrlich). Clinical experience indicates that the affinity of diphtheria toxin for tissue cells is less than that of tetanus toxin, for diphtheria may readily be cured on the second or third day of the disease, whereas a cure of tetanus is rarely effected. These would seem to be favorable conditions for successful serum therapy. Although the toxin of diphtheria may attack the nervous system as indicated by the development of paralyses, yet these are seldom fatal; and on the basis of anatomic findings in fatal cases it seems probable that the greater portion of the toxin is taken up by parenchymatous and lymphatic organs, and by connective tissues, which compared with the nervous tissue are of less immediate importance for life and have greater recuperative powers. We may infer from clinical experience that diphtheria toxin is so situated in the body that it is accessible to the action of the antitoxin.

Conditions of Importance for Success.

We have, therefore, the following conditions which apparently are of importance for the success of antitoxic therapy: 1. The concentration (strength) of the antitoxin which is injected; 2, its freedom from contamination and adventitious toxins; 3, the time of its administration; 4, the quantity injected; 5, the degree of affinity between toxin and antitoxin; 6, the degree of affinity between toxin and tissue cells; 7, the amount of toxin which may be bound without a fatal issue, of which the vital importance of the organs involved and their recuperative powers are factors; 8, the location of the toxin in the body, i. e., its accessibility for the antitoxin.

Prophylactic of Antitoxin.

What has been said relates to the curative action of antitoxin. It is evident that the action of antitoxin, when used as a prophylactic, is of a simpler nature, for in this instance the conditions approximate those of the test-tube experiment. There has been opportunity for the antitoxin to become uniformly distributed in the blood and lymphatic circulations, hence it is able to meet and to bind the toxin before the latter comes in contact with the receptors of important cells. The high value of tetanus antitoxin as a prophylactic, a value which has become evident in recent years, probably depends on this condition.

The immunity which is afforded by a prophylactic injection of antitoxin is of short duration, from two to three weeks; the antitoxin is excreted in the urine to a considerable extent, but may also be bound and assimilated by the tissues in part.

(*To be concluded.*)

Chinese Camphor Trade.—It is only in recent years that the Chinese have made an attempt to cultivate the camphor trees which abound in some provinces. *The Pharmaceutical Era* states that camphor first appeared as an export in the customs receipts in 1902 and that since then, and especially in the last year, there has been a considerable increase in trade.

Clinical Reports

THREE CASES OF TETANUS SUCCESSFULLY TREATED.

CARLOS C. BOOTH, M.D.
YOUNGSTOWN, OHIO.

A CASE OF TETANUS FOLLOWING ABDOMINAL SECTION. RECOVERY.

Case 1.—A young man, aged 22, was referred to me by Dr. F. S. Merwin of this city, and I operated on him for tubercular peritonitis, complete recovery following. The case progressed in the usual manner, excepting that the patient had a slight rise of temperature. On the tenth day we opened the dressing and discovered a small stitch abscess, which was treated and dressed daily. On the twelfth day he began having slight twitchings of his muscles, and complained of difficulty in opening his mouth, which symptoms gradually increased until the tetanic convulsions became general and of the most violent character. On the seventeenth day, or the fifth day of the illness, we began using antitetanic serum three times daily. The spasm continued to be severe for a few days, and then became less frequent and less severe. After seventeen doses of 10 cm. each were given, his spasms ceased and complete recovery followed.

TETANUS FOLLOWING GUNSHOT WOUND. RECOVERY.

The following case was reported to the Mahoning Medical Society by Dr. Justice:

Case 2.—Clayton M., 11 years old, shot himself with a toy pistol on July 4, 1904, in the center of the right palm. July 6 he was taken to Poland to the family physi Dr. C. R. Justice, who removed the wad from the and disinfected it with peroxid of hydrogen, lea ctions to let him know if the wound did not heal y 16 the boy was taken to the physician's off econd dressing, when the wound was found infla boy very nervous and unsteady in his walk. Dr. terized the wound with carbolic acid, and the patient home. Dr. Justice was called to see him next morning at his home in Youngstown. I was called in consultation. I found that, to all appearances, the wound was partially healed. The masseter muscles were so rigid that the boy was not able to open his mouth widely. There was opisthotonos. He was lying on the bed and was very nervous, but had had no spasms. We had him sit in a chair where I could secure a better view of the wound. With firm pressure, I succeeded in squeezing a little secretion out of the wound. At this moment he had his first tetanic convulsion, which was a very severe one. We gave him chloroform and I incised the wound, which I found extensive beneath the surface and filled with gelatinous material, which I curetted out and thoroughly cauterized the cavity with pure carbolic acid. After the usual surgical dressing we put him to bed and he continued to have regular convulsions. Dr. Justice gave him, at this time, one-half ounce of antitetanic serum, and continued to do so every eight hours for three days. Owing to the distance of his residence from that of the patient, he doubled the dose, giving an ounce at a time twice a day for three days, the nurse at this time being afraid to use it. After this the nurse began to use it, and it was continued for five days, night and morning. The spasms occurred regularly for five days, he was free from them for one day, and then had one general but slight spasm, which was the last. The antitoxin was continued for a few days, using in all 54 half-ounce doses, and although so many doses were given in such large quantities in such a short space of time, only one small abscess formed from the injections. The masseter muscles were the first to become involved and the last to recover. Chloroform was used to relax the spasms when they were severe. To facilitate giving him nourishment, the patient was allowed to inhale a sufficient amount of chloroform to relax the muscles of the jaw. The patient is now in good health.

TETANUS FOLLOWING AMPUTATION OF THE THIGH. RECOVERY.

Case 3.—Mr. A. B., aged 48, was brought into the hospital Nov. 17, 1905, with a badly lacerated thigh, having been run over by a street car. The extremity was crushed at the junction of the middle and lower third. He had lost so much blood, and was so nearly exsanguinated that it was unwise to amputate at this time; therefore I thoroughly cleaned the wound, severed the crushed member, which was attached by skin only, tied up the stump with a wet antiseptic dressing, gave him an intravenous saline infusion, placed him in bed and waited for him to get into a condition for an amputation, which required two days and two more saline infusions. On the 21st I made a rapid amputation at the junction of the middle and lower third of the thigh. I found at the first dressing that one of the flaps had sloughed slightly, for some reason unknown to me; this caused a small suppurating surface. November 30 he complained of stiffness of the jaws, which continued for two days, when I gave him antitetanic serum subcutaneously three times a day. This did not cause any improvement, and on the fourth day, his back becoming rigid, the house surgeon, Dr. McCurdy, gave him an intraspinal injection of the serum. This caused some improvement which lasted for two days when I gave him another intraspinal injection, and repeated the same the third day. His condition being improved, although he had some little stiffness of the jaws remaining, he received no more serum, and made a gradual and complete recovery.

DISLOCATED THYROID CARTILAGE OF THE LARYNX.

FRANK W. SMITHIES, M.D.

CHICAGO.

Inasmuch as dislocations in this region are of such infrequent occurrence, the symptoms are so varied and the treatment so arbitrary, the report of this case should prove of interest and value.

History.—Patient, a male, aged 20, of slender but muscular build, an athlete, at the time of receiving this injury, was half-back on a local football team. He had previously been in good health, and had suffered no injury to the larynx or in the neck. While "bucking" the opponents' line, he was hit or kicked in the front of his neck. The blow rendered him unconscious for some minutes. On recovering his senses, he complained of much distress in his stomach, but did not vomit. He had a choking sensation in his throat, breathed with great difficulty, and could talk only in hoarse, low tones. He was unable to take further part in the game then in progress, but lay around for more than an hour, thinking that his condition would gradually improve. At the end of that time, as he became no better, I was called.

Examination.—The patient's face was flushed, pupils dilated, temperature 102, breathing stridant, respiration from 26 to 32 a minute. Speaking was very difficult, as the pain was very great on attempting conversation. The voice was a hoarse whisper. Anteriorly, the neck showed a noticeable flatness in the median line. Laterally, anterior to each sternomastoid muscle, was a prominence, that on the right side being more marked and somewhat lower than that on the left. The prominences moved when the patient swallowed, and their motion caused considerable pain. There was considerable swelling of the tissues in the region anterior to the sternomastoid muscle. The skin over the region of the larynx was not broken, nor did it show any marks of violence. The patient gave no history of raising blood, although he had coughed repeatedly since the accident. On palpation, there was great tenderness throughout the region of the larynx, especially when the lateral prominences were felt. It was apparent that the thyroid cartilage had been "sprung," as it were, from its seat on the cricoid. At the same time, there had been rotation in a vertical direction. The cartilage in question lay partially flattened out, anteroposteriorly, the prominences seen laterally proving to be the alæ of the cartilage. The vertical rotation had been from left to right, superiorly, causing the right ala to rest at a lower level than the left. The cartilage, as a whole, was capable of being moved considerably, but even the slightest motion caused the patient the most excruciating pain. On swallowing, the excursion of the cartilage, vertically, was less than normally. No crepitus could be detected along the anterior angle of the cartilage, nor did the two alæ move independently. The inferior border of the thyroid cartilage was about a sixth of an inch below its normal resting place on the cricoid. The latter cartilage did not appear to have been injured in any way. The fact that the patient was rather slender greatly facilitated the examination. The pulse was rapid, but strong and regular.

Laryngoscopic examination was very unsatisfactory, inasmuch as the patient could not bear to have the mouth open for any length of time. Coughing also interfered with the examination. It could be seen, however, that the epiglottis was normal and that the vocal cords were moving faultily, since the image on the throat mirror was very uncharacteristic.

Treatment.—This was mainly by position and by digital manipulation. The patient was placed in the supine position, with a pad beneath his head, in order to relax the muscles attached to the thyroid cartilage. Then, by careful manipulation, the cartilage was elevated to its normal position on the cricoid. At the same time, rotation was made vertically, from right to left, with lateral pressure on the alæ, synchronously, toward the median line, until articulation with the cricoid was felt. The entire region of the larynx having previously been painted with the tincture of iodin to aid in reducing the swelling of the cervical tissues, the position of the alæ was maintained by small pads of cotton held in place by adhesive strips. The position of the thyroid cartilage, as a whole, was then maintained by adhesive strips placed horizontally. The dressing was completed by a pad of cotton and a few turns of a wide roller bandage. The patient was instructed to remain in bed, on his back, to suck ice, to use his voice as little as possible, and he was placed on a liquid diet.

Progress of the Case.—After 24 hours the patient's condition had improved greatly. His fever had abated, his face was not flushed, the pupils were normal and reacted well, the voice was less hoarse. There was considerable pain on swallowing and on pressure over the alæ, externally. Examination showed that the position of the cartilage had been maintained. The nausea had disappeared and the patient was able to take as much nourishment as was allowed him. The swelling of the cervical tissues had decreased considerably. The treatment described was persisted in, frequent examinations being made to see if the reduction had been maintained. Within a week the swelling of the tissues had disappeared and the pain on swallowing had decreased markedly. The voice was still hoarse, but much stronger, and speech was not attended with much pain. At the end of three weeks the dressings were removed and the cartilage was found to be very nearly normally situated. There was but slight pain on pressure over the alæ. Vertically there was a slight dropping, but functionally it gave the patient no inconvenience. The patient's voice was still husky, but was gradually improving. At the end of five weeks the patient had practically recovered. It is more than six months since the accident and there has been no recurrence of the condition.

The Postoperative Uratic Sediment in Prognosis.—M. Claret, ex-interne at La Charité, following a suggestion of his chief, Dr. Campenon, has analyzed twenty-five cases of laparotomy, with special reference to the urinary sediments occurring within the first two days. He finds that, with one exception, the cases all followed a general rule, the fatal ones showing no sediment and a hypoleucocytosis, while the others, no matter how severe the infection, showed a sediment and a hyperleucocytosis, least in the milder cases and both greater in the severer ones. In the one exceptional case the patient died on the eighteenth day after complications, the uratic sediment, which was free in the beginning, disappearing very rapidly after the second day. The phosphatic deposits were normal in the fatal cases and only slightly increased in the others. He finds that these agree with experimental facts and deduces the following rule: "The appearance during the first twenty-four to forty-eight hours after laparotomy of an abundant uratic deposit will be a sure sign of favorable prognosis. Its absence should demand all reservations as regards prognosis of recovery."

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THE FREE DISPENSARY.

The proper conduct of the free dispensary has probably been a moot question since free dispensaries began, but the discussion usually turns on the extent to which the privileges of the dispensary are abused by persons able to pay for medical care and the extent to which, as one of our correspondents puts it, "young and struggling physicians are thereby robbed of cases which should properly fall into their hands." While we fully realize the importance of this aspect of the case, there are others of greater importance which are not generally recognized. We refer to the inferior character of medical service given in some dispensaries and the imperfect or defective training which the student receives even in some of the best.

Inquiries addressed to the secretaries of the boards of health of thirteen of our most populous states elicited the fact that in none of them is there state law or city ordinance regulating the dispensary. Hospitals are subjected to more or less regulation—in some cities the ordinances are almost oppressive—but the dispensary escapes all control, save such as is expressed in the general statutes regulating medical and pharmaceutical practice.

The fourteenth state to which our inquiry was sent, New York, has a law, passed in 1899, providing for the licensing by the State Board of Charities of dispensaries "which are supported, in whole or in part, by trust funds, public moneys or sources other than the individuals constituting the dispensaries." The recent report of the New York State Board of Charities on licensing dispensaries is at hand. It states that there were 123 licensed dispensaries in the state of New York Oct. 1, 1903, but makes no statement or estimate as to the number not covered by the provisions of the law. The report indicates an effort to improve the standard of proper administration as regards cleanliness and propriety, and shows that four dispensaries were closed within the year. In general, however, the New York law is directed mainly toward what the report calls "the social view," i. e., toward the prevention of fraud by well-to-do applicants, and scarcely touches what is to us the most important aspect of the case—the necessity for perfecting the medical service. The two objects of a genuine dispensary are the proper care of the sick poor and the practical training of medical students and physicians, and both are absolutely dependent on a high standard of medical supervision and service.

The legitimate clientèle of the free dispensary represents the most ignorant and helpless class of the community. They have no means of judging of the medical attainments of the staff of a dispensary, or even of knowing whether the young man who treats them is actually a physician or not. A large proportion of these people come from countries where public institutions are subjected to careful governmental regulation, and they are, therefore, accustomed to confide implicitly in such institutions. A German immigrant from Heidelberg would naturally visit one of our dispensaries for the first time, at least, with the same confidence with which he would apply to the dispensary of the medical school of the University of Heidelberg, where all is under the strictest governmental control, and the out-service is supervised as carefully by the medical staff of the university as the university hospital itself. Yet the only protection afforded here to the simple foreign peasant is a statute regulation—uninforced by any inspection—which requires that some licensed physician shall be attached in some capacity to the dispensary and that the drugs shall be dispensed by a registered pharmacist, although the requirement for a registered pharmacist is not universal. The laxity of the law encourages the growth of the "pseudo dispensary" whose insolent frauds are only too familiar; but that is a matter which belongs to the domain of criminal law. Our concern is with the functions of the true dispensary. It is needless to say that any dispensary which is worthless to the patient is equally worthless to the student.

Some of the medical school dispensaries are conducted on the most approved lines and offer, doubtless, as valuable training to the student and as reliable care to the patients as any dispensaries in the world. Of such we can only say, may they increase and possess the whole field. On the other hand, there is a large amount of dispensary indoor practice and out-practice to which the same criticism applies which we have previously had occasion to make in these columns on some free hospitals, i. e., it is undirected, superficial and irresponsible.

Undoubtedly patients will crowd to dispensaries, however many are opened, but no physician uses the excuse of a large practice as a reason for slovenly methods, and the dispensary can not defend superficiality by pleading that it has more patients than it can well handle. The interests of the public and of the profession would both be served better by restricting the number of patients to manageable proportions. There is a type of dispensary too common in every great American town which starts with a laudable humanitarian spirit and fair medical standards, but which quickly degenerates, usually from lack of funds and inattentive management. The physicians in charge of the clinics are busy men, with constantly increasing practices. They attend the clinics irregularly, and in their absence students assume charge. The out-practice, at first limited in amount and carefully controlled, increases to unmanageable proportions and falls completely into the hands of the students. In some supposedly respectable dispensaries, illegal young practitioners are not even required to keep records of their cases, but pursue their way without the slightest guidance or control.

Such dispensaries not only tend to bring discredit on the profession; they also fail to give the student the educational training which they profess to afford him, and, last but not least, they fail to give to their clientèle the medical care which they ostensibly offer. It is time that we considered with care some reasonable method of regulating dispensaries.

PERFORATION IN TYPHOID FEVER.

The subject of perforation in typhoid fever is one of perennial interest, and of late years has been much to the fore on account of the renewed interest in its surgical aspects. From time to time analyses of the factors bearing on the subject have been made, and the published results usually show variations, at least in detail. In a disease like typhoid, which varies so much from year to year, it is necessary to analyze large numbers of cases, collated from various sources, in order to obtain an idea of the mean natural history of the disease. It is always of interest, therefore, to study new reports and to compare them with previous ones.

Recently Scott[1] has published some interesting facts bearing on perforation, collected from the records of the Pennsylvania Hospital. A study of his figures shows that this complication is more common than is generally stated to be the case, as at least one death in four is due to it. It seems to be less common in European countries than it is in the United States, Canada, Australia, or England, though why is not apparent. According to the census statistics of 1900, Scott figures that 8,884 deaths from perforation occurred during that year, and that 2,211 of these might have been saved by operation, considering the mortality from this to be 75 per cent. The great majority of perforations occur between the second and the fifth week, and the cases reported as occurring very early are probably perforations during a relapse. In nearly all instances, the perforation occurs in the ileum, though appendiceal perforations are by no means uncommon. Most of them are small, circular, and pin-point in size, and are evidently due to gradual erosion through the base of an ulcer; a few, due to separation of large necrotic patches in the wall of the intestine, are much larger.

The diagnosis of perforations has always been difficult and a question of discussion. The remark made by Osler, several years ago, that the symptoms usually described as those of perforation are, in reality, those of peritonitis has doubtless led to more careful study of the early symptoms in this country. Pain, tenderness, and rigidity are the three important symptoms, though any or all may be present. Pain of some sort is present in about three-quarters of the cases, and sudden severe pain in half of them. Tenderness is present in about the same proportion of cases as pain, and rigidity in almost as many. Some of the signs emphasized in the older writings, as distension and loss of the liver dullness, are shown by Scott's figures to be unreliable, and hemorrhage is not so frequent an accompaniment as is often thought. The recent sign said to be of great importance by Goodall, shivering and chilly sensations, is of little value unless accompanied by corroborative signs. The most important thing to be looked for in the temperature chart is a sudden rise followed by a slow fall, and the temperature changes may not be detected at all with the ordinary three- or four-hour chart. The blood picture, much vaunted four or five years ago, is now stated to be of no great value. There may be an actual fall in the leucocytes, and the general consensus of opinion now is that perforation, like other inflammatory complications of typhoid fever, is apt not to be accompanied by leucocytosis on account of the bone marrow changes which accompany the disease.

On reading Scott's report, one is impressed with the fact that in typhoid perforation, as in all conditions difficult of diagnosis, we must depend on collections of symptoms and signs, and not on isolated ones. Most of us are fond of short cuts to knowledge, and it would, of course, be of great advantage to the patient if there was a pathognomonic symptom or sign for every disease and every complication. We constantly meet those who seem almost to think that this is so, men who will not diagnose a case of typhoid fever because the patient has not a typhoid tongue, and men who call every chill malaria. While the search for pathognomonic signs is a worthy one, we must not forget that there are very few of them yet, and the study of conditions like typhoid perforation should show us the great necessity of learning to put together the separate pieces which constitute the Chinese puzzle of diagnosis.

THE FREQUENCY OF TUBERCULOSIS.

In the last few years, the belief has prevailed that tuberculosis infection is all but universal and that, in civilized countries at least, practically no one escapes "without a smack of consumption." The German saying, *"dass Jeder ein bischen tuberculos sei,"* well expresses the general feeling. The recent strengthening of this more or less widely held popular opinion has been due principally to the work of Naegeli and Franz.

Naegeli[1] in a series of several hundred minute and exhaustive postmortem examinations at the Pathological Institute in Zurich found lesions regarded by him as tuberculosis in over 97 per cent. of the bodies of adults. Subsequently Burkhardt[2] announced very similar results obtained by him from material examined at the Dresden Pathological Institute. The much-quoted work of Franz[3] on the application of the tuberculin test to apparently healthy Austrian soldiers showed that a positive reaction was obtained in over 60 per cent. of the number examined.

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[1] Univ. of Pennsylvania Med. Bull., xviii, No. 3.

[1] Virchow's Arch., 1900, vol. clx, p. 426.

[2] Münch. med. Wochft., 1903, No. 29.

Kraemer[4] has now subjected the work of these authors to a searching and destructive criticism. He points out that the results obtained by Naegeli and Burkhardt are at variance with those reported by other investigators, notably by Orth, whose observations are recent and cover a period where owing to the general interest in the subject and to other causes special attention was presumably given to the occurrence of tuberculous lesions. Orth found evidence of tuberculosis in only from 27 to 28 per cent. of 1,087 autopsies and his results thus contrast markedly with those of Naegeli and Burkhardt. Kraemer cites other data also at variance with the Zurich and Dresden figures, and argues that they should prevent an uncritical acceptance of the universal infection doctrine.

The divergence in the results obtained by skilled and experienced observers is considered by Kraemer to depend partly on the difference in the locality in which the observation was made, partly on the mistake of invariably assigning certain pathologic appearances to a tuberculous origin. In a discussion of the influence of locality on the autopsy statistics, he calls attention to the peculiar character of the material handled by Naegeli, comprising as it did a large proportion of factory workers, especially of those in the textile industries. The relatively high percentage of tuberculosis in the dust-breathing occupations is well known. In the same connection, remark is made of the inevitably selected character of the material coming to inspection in an urban pathologic institute, there being many factors tending to swell unduly the proportion of tuberculous infected persons as compared with the number in the community at large. Kraemer also questions the propriety of identifying on anatomic grounds a certain class of lesions as tuberculous. Here he succeeds at least in making evident the need of fuller data, and in opening the way for a still more exhaustive investigation than that of Naegeli.

A similar analysis of Franz's tuberculin investigation follows. It is stated that in the frequent references to his work (61 per cent. of positive tuberculin reactions among 400 apparently healthy recruits from Bosnia and Herzegovina) the fact is overlooked that the regiment examined was chosen for the specific reason that it had had for several years the largest proportion of tuberculous cases. The assertion is also made that Franz himself had no thought of interpreting his results as a measure of the amount of tuberculosis in the whole community. The shortcomings and sources of error in the tuberculin test are then entered into by Kraemer in some detail, and finally the surprising fact is brought out that in this whole field of investigation there is practically nothing on which to institute a comparison with Franz's work. His inquiry stands alone as the only research of import into the frequency of a positive tuberculin reaction among presumably normal individuals. The superior value of the tuberculin test as a means of shedding light on the question at issue should stimulate further investigation in this direction.

Kraemer concludes that the assumption that every adult harbors in his body an active or a burned out tuberculous focus is not yet warranted by the evidence at our command. Conservatively stated, the question of the frequency with which human beings become infected with tuberculosis is not yet solved, owing partly to the meagerness of the observations hitherto made, partly to their being limited to certain localities.

SIR JOHN SIBBALD.

The recent death of Sir John Sibbald, late member of the Scotch Lunacy Commission, causes profound regret to all who knew him. He was a person of singular worth and singular modesty and we think it fitting to commemorate his services in developing the care of the insane, not alone because they are important and permanent but because his life presents a fine ideal of what a man and a physician ought to be. Sir John Sibbald became superintendent of the Argyle Asylum, and during the seven years he remained there he courageously adopted all the most progressive ideas of the day. He was the first man in Great Britain to tear down the walls of the old prison-like "airing-courts" and to substitute free exercise and employment. His patients became more orderly and less subject to tuberculosis. All the Scottish asylums followed his example in this and other respects and to-day the visitor will probably find the Scottish institutions for the insane the freest and most homelike that he can see the world around.

Sir John became deputy commissioner in 1878 and in that capacity had much personal experience with the Scottish system of boarding-out quiet chronic insane and he became an earnest advocate of such care. He studied it carefully in several continental countries, wrote valuable discussions of its various phases and became known as the greatest English-speaking authority on the subject. In this connection, it is interesting to note that the New York State Lunacy Commission and the New York State Charities Aid Society now urge the boarding-out of quiet insane, as a relief from the crowding and expense of the present system in that state.

Sir John was a member of the commission for twenty-one years until his retirement for age in 1899. His patient apprenticeship, his long tenure of office, free from politics, as well as his wisdom and manliness and tact suggest the reason for the world-wide prestige enjoyed by the Scotch Lunacy Commission, which has had the services of men of his calibre. By the same tokens is pointed the moral of the inevitable failure of too many apparently similar boards in this country. When all the American states offer to their talented sons the same opportunities for public service which Scotland affords, then we may hope that the spirit and devotion of such men as Sir John Sibbald will not be lacking here. We need men who are willing to devote themseves to the humdrum routine of administration, and who can do it in the spirit of modern science. Sir John had the scientific mind, careful, methodical, and thoroughly trained, and his views were those of a scientist; yet it is noteworthy that the improvements he chiefly urged were on the humanitarian side; such as freedom and simplicity in the institution, simple home life in the villagers' families for suitable quiet patients, separate wards in general hospitals for acute and transitory cases, etc. It is this humanitarian view which we must recognize as being also the scientific view in the modern care of the insane. Dr. Sibbald was knighted for his public services, on his retirement from the commission.

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[3] Wiener med. Wochft., 1903.

[4] Zeits. f. Hyg., 1905, No. 50, p. 265.

THE PURE-FOOD CAMPAIGN.

If we are to have rational and necessary pure food legislation by the next Congress, the medical profession must join actively in the education of the public. With the commercial interests arrayed on both sides of the contest, the layman has small opportunity to glean the real truth from the mass of documentary ammunition (so-called "literature") that is weekly being hurled from one camp into the other. Many periodicals are giving space to contributions of greater or less value, but, as we have before noted, some of the statements are wildly exaggerated. Recent issues of *Public Opinion* and of a little Chicago publication, *What to Eat,* contain articles purporting to support the pure food movement, but really well calculated to furnish munitions of war to the already well-supplied opposition. The use of intemperate terms in such a cause as this is greatly to be regretted; for example, "thieves and robbers," "heinous custom," "poisonous, nerve-racking, baby-killing food." The public is gravely told that "visible signs of degeneracy" are increasing in the Gulf States and that the one cause is "deplorable foods." It is also told that the market contains foods made from "factory refuse and street sweepings," and that the "meat of diseased horses and mules" is sold for beef. The real animus of these articles appears to show in these expressions: "Our proposed law . . . is unique only because of its originality" (*sic*) and "there have been many grave charges to the effect that the food bill now pending was drafted for the benefit of the so-called whisky trust." Not much benefit to the pure food cause can come from the following gems: "The germs of the human system," "certain germs are absolutely essential to life and health," "the entire organism of the human system is composed of different kinds of germs," "there are two kinds of germs in the human system continuously at war with each other," and "when the disease germ overpowers the health germ the individual will die." The honest advocate of pure food may well cry: "Save us from our friends!" To all appearances a most subtle attempt is being made to discredit the cause by a systematic series of attacks from the rear. Physicians, however, having well in mind the true merits of the case, are in position entirely to frustrate this scheme, as they come in contact with those who may read these exaggerated articles.

NEWSPAPER MEDICINE.

Many newspaper excursions in the medical field are funny in the highest degree, while others are merely sensational. Of the latter class are articles recently appearing under the captions, "Death in the Money Hunt," and "Hearts Fail; Graves Fill." These "scare heads" were based on the publication of figures, apparently showing in New York City a great recent increase in mortality, especially from heart disease. Possibly, on careful study, the figures, if confirmed, may prove to have some significance, but it is much to be desired that at least the good newspapers might come to deal with medical and sanitary matters in a common sense manner, entirely excluding sensationalism from their treatment of these subjects. By adopting such a course, they might do much good. As it is at present, any possible benefit is swamped in the flood of sensational overstatement. Who will lead the way in an effort to win over the daily press to rational and helpful methods? It is a great task for a great man, but a good result must entirely depend on impersonal methods. In many county societies the work has been begun by "press committees," that furnish the papers with timely articles on medical topics, which are signed impersonally.

CHICAGO'S COMMISSIONER OF HEALTH.

In the exigencies of politics, it seems to have been necessary, in the mind of the new mayor of Chicago, to remove Dr. Reynolds from the position of commissioner of health. The position, in a community as large as Chicago, is of immense importance, the growth of a city —financial, business and numerical—depends on the health of its people, and this on the enforcement of hygienic laws as they apply to municipalities. To fill the position successfully requires that knowledge which can only be gained by experience, and no change should be made unless for the good of the service. Dr. Reynolds has been commissioner for ten years, the last eight years consecutively. To him must be given credit for building up a department of health that is a credit to Chicago and for systematic education of the public resulting in lessened mortality and morbidity rates. Chicago's statistics have been systematically developed so that from its reports have been learned much of value in regard to municipal sanitation and mortality and vital statistics. We sincerely hope that the good work may go on under the new commissioner, whom we wish success. A high standard has been set for him to follow. We hope that he may even surpass the achievements of his predecessor in this field of so great opportunity for civic usefulness.

INSURANCE AND MEDICAL DEFENSE.

Some comment has followed the recent action of a large insurance company in discontinuing its physicians' defense contract. No reason for this withdrawal has been given, though the natural presumption is that the business, at least for that company, proved unprofitable. There yet remain five general casualty companies that issue these contracts and one company devoted solely to this form of insurance. According to *The Chronicle*, an insurance weekly, the company that confines itself to this field issues a contract providing indemnity only for legal services incurred by a policy holder who is sued for malpractice. On the other hand, according to the same authority, the general casualty companies that solicit this business offer a contract that indemnifies for damages up to a certain figure as well as for legal expenses of defense. Unless other companies withdraw their contracts it will appear that some of them still find the risks profitable and that the medical profession does not lack opportunity for insurance against the loss and annoyance of these disagreeable suits. The company that has withdrawn its policy is the same that met with an unfavorable opinion from the attorney-general of Iowa, as noted in THE JOURNAL, April 1, 1905, page 1040. In this connection also should be read a letter published in THE JOURNAL, April 22, 1905, page 1296, showing that indemnity for damages appears to violate law and ethics, while indemnity for defense does not.

OPEN TREATMENT OF BURNS.

The classical method of treating burns has generally involved the idea of exclusion of the air, even before the bacteriologic discoveries of the past thirty years had made air infection a matter to be so seriously considered. Dr. Sneve's paper in this issue of THE JOURNAL, with its advocacy of a diametrically opposite method, will, therefore, attract some attention, as the old ideas are still largely extant. His results in the cases he reports are striking and there is much force in his arguments in favor of the open method. He calls attention in particular to the short duration of the pain in cases thus treated, though this seems contrary to the older ideas on the subject. Theoretically, there is nothing against the chances for good recovery in cases in which the open method of treatment is used, except the possibility of air infection, provided, of course, that the external temperature is properly regulated and that surgical cleanliness is maintained. Burns do not heal by first intention, sloughing and eschars must be expected in severe cases, and, while we can no longer speak of "laudable pus," we can not deny the beneficence of the scab. This very much abused term simply signifies Nature's method of healing many lesions, and nowhere so usefully as in burns. According to Sneve's experience, the usefulness of the crust or scab is evident, and the results in his cases seem to be better than by other methods. When suitable conditions, the proper regulation of external temperature and close surgical oversight, etc., can not be obtained, the older methods of treating these accidents are better, but in selected cases the open method is worthy of a thorough trial, and if the experience of others coincides with that of Dr. Sneve and his colleagues we may expect its general use in the near future. If the open treatment is good for wounds, as some have claimed, its use is still more rational for burns.

A NEW OCCUPATION DISEASE.

A Buffalo physician finds that contiguity to electric generators of large capacity, such as those at the Niagara power works, has a decidedly bad effect on the physique of those employed, especially in producing digestive disorders and their consequences. Exactly how this is to be accounted for he does not venture to say, but suggests that there may be something in the waste electric current, some special set of rays perhaps. He offers as a sort of collateral evidence that may bear on the subject the very quick souring of absolutely fresh milk under the same conditions as those in which the men work, as he has demonstrated by direct experiment. Electricity is a force of which as yet we have very imperfect knowledge in many respects, and it is quite within the range of possibility that, with the high concentration and quantity that must be constantly acting on the surrounding mediums in such extensive power works as those at Niagara Falls, some pathologic effects might be developed. That it has not been observed elsewhere to some extent is not unaccountable. There are few places, if any, where such phenomena are as likely to be impressed on the casual observer as at Niagara Falls, but the facts he gives should suggest investigations in power plants elsewhere. It may be that what is in such excess pathologic might be directed by proper appliances to some valuable therapeutic effect, and the wastage that is altogether harmful at present be rendered of some utility for human health. This, however, is *only a conjecture and, perhaps, not a practical one.* In any event, the observation, if verified, is of interest as revealing a new form of occupation disease.

SYMPTOMS DUE TO THE PRESENCE OF CATS.

It does not seem unreasonable to believe that the several varieties of sensibility—tactile, painful, thermal, gustatory, olfactory, auditory, visual—are but higher *differentiations of a fundamental form, namely,* common sensation. Impressions may be conveyed through any of these channels without the intervention of consciousness, but in that event there is a lack of perception. On the other hand, the impression may be of such a delicate and intangible character that the particular channel through which it reaches the sensorium may not be readily discernible. In some such way as this must be explained the knowledge of the presence of another person or the not uncommon recognition without the aid of vision that one is being looked at. Perhaps information under such circumstances is conveyed through nerves of common sensation. It may also be that an impression is made on the olfactory or auditory nerves. Some interesting observations along this line have recently been recorded by Dr. S. Weir Mitchell,[1] in a paper in which he refers to an hysterical woman in whom a fear of cats had become an obsession and who declared that she could always detect the presence of an unseen or unheard cat. To designate the state of cat-fear, Dr. Mitchell employs the term ailurophobia. A collective investigation of the subject was undertaken, as a result of which it appears that a not inconsiderable number of persons exhibit, in the presence of a cat, various phenomena, such as fear, terror, disgust, chilly sensations, horripilation, weakness, trismus, rigidity of the arms, pallor, nausea, vomiting, convulsions, temporary blindness. In a large proportion of the cases, the manifestations make their appearance even when the animal is not seen or heard. In a small number of these, the individuals were conscious of the odor of the animal, while in the remainder they were entirely unaware of the manner in which they recognized the presence of the offending cause. In the latter, likewise, it seems most probable that the recognition is due to odorous emanations appreciable to a sensitive nervous system, but not as an olfactory impression. Asthmatic symptoms develop in some persons in the presence of cats and of other animals, and the same phenomena have been observed in those exposed to the emanations from hides and furs.

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[1] Amer. Med., May 27, 1905, p. 851.

Medical News

CALIFORNIA.

Commencement.—The College of Medicine of the University of Southern California, Los Angeles, held its twentieth annual commencement June 13. A class of 23 received degrees from President Bovard of the university, and Dr. George Dock, University of Michigan, Ann Arbor, delivered the doctorate address.

New Hospital for Stockton.—The new emergency hospital erected by Mr. and Mrs. J. H. Hough in memory of Henry Harpur Hewlett at a cost of $30,000, was formally transferred to the city of Stockton June 5. Dr. Ira B. Ladd has been appointed surgeon to the hospital. The first patient was received June 15.

New Society.—It is announced that the Medical Society of the State of California was incorporated June 16. The directors are one regular practitioner and four eclectics. It is stated that the society is not formed for pecuniary profit, but for charitable and social purposes, to establish free clinics for the poor and to bring together practitioners of all schools in California.

Personal.—Dr. Joseph Marshall Flint, San Francisco, has sailed for Europe. He expects to spend two years in Breslau with Prof. Dr. Mikulicz.——Dr. Alfred E. Regensburger, San Francisco has returned after an extended trip through China and Japan.——Dr. Samuel S. Bogle, Santa Rosa, has been elected health officer of Sonoma County.——Dr. Harry S. Gossage has been elected secretary of the board of health and health officer of Petaluma.——Dr. Thomas F. Taylor, Geyserville, fell June 7 and dislocated his right arm at the shoulder.

ILLINOIS.

A Medical Novelty.—The International Association of Medical and Surgical Specialists has been incorporated by a homeopathic practitioner who announces himself a "mem. active or honorary of many state, national and foreign med. and scientific socs.," an oculist and a dentist. The object is stated to be to advance the interests of all men in the medical profession from general practitioners and specialists to osteopaths.

Newly Revised Circular on Consumption.—The State Board of Health has just published the fifth revised edition of its circular on consumption. Much new matter has been added, making this edition of increased value to consumptives. A special appeal is made to philanthropists to give financial aid to consumptive patients who are too poor to properly care for themselves, this appeal concluding:

> No better opportunity for practical charity ever existed; no greater privilege was ever offered than is held out to him who would provide the means for the poor consumptive to regain his health and to face the battle for life and for existence on an equal footing with his fellows. Those who are giving fortunes for the advancement of education, of science, or art and even of religion will do well to pause and consider if saving the life of our fellow man and restoring him to the helpless ones dependent on him, is not a nobler and a better thing than the elevation of culture to its highest plane or the carrying of learning to the natives of foreign shores.

Chicago.

Physicians on School Board.—Dr. Cornelia B. De Bey has been appointed, and Dr. Wladyslaw A. Kuflewski, reappointed a member of the Board of Education.

Emergency Hospital.—The formal opening of the Chicago Emergency Hospital, 309 Fifth Avenue, occurred June 27. Dr. Richard M. Fletcher is surgeon-in-chief.

Personal.—Dr. Alice Hamilton has gone to Europe.——Dr. George F. Suker has returned to Chicago and has resumed his work as professor of ophthalmology in the Chicago Postgraduate Medical School.

June Health Good.—June health continues to improve as the month draws to a close. The mortality rate for the week ended June 24 was 439, or 11.49 per 1,000 annually, and this is only slightly in excess of the lowest on record, that of June, 1904.

Communicable Diseases.—Except smallpox, all the contagious and infectious diseases show a decrease in the number of cases reported—diphtheria most marked, 28 cases during the week, as against 36 the week before. There were 18 cases of smallpox discovered, as against 15 during the week of June 17.

Visitors En Route to Portland.—During the past week many parties of physicians and their friends who were passing through Chicago on their way to the Portland session have called at the American Medical Association building. Monday, Drs. Frederick Holme Wiggin, New York, and Cyrus Lee Stephens, Athens, Pa., escorted a party of between 80 and 90 who were traveling on the New York and Philadelphia special train, which was mentioned in The Journal June 3, page 1775, the names of most of the members of the party being given there. On Tuesday a number from Boston called. This party occupies a special car and is to stop in Colorado and California, and will return to the East by the Canadian Pacific. Among those in this party were: Dr. J. Collins Warren, Dr. John Warren, Prof. Thomas Dwight, Dr. and Mrs. M. H. Richardson and daughter, Dr. and Mrs. John C. Munro and son, Dr. F. C. Shattuck and daughter and friend, and Dr. R. F. Oneil of Boston, and Dr. G. Ben Johnston, Dr. Christopher Tompkins, and Dr. L. C. Bosher of Richmond, Va., and Dr. Julia Tolman of Arlington, Mass.

Dr. Reynolds' Valedictory.—Dr. Arthur R. Reynolds, in his final bulletin as commissioner of health, in summing up the results of his ten years' service, remarks on the purpose of the labor of a health commissioner and on the honor that falls to one who can demonstrate that he left his city healthier than he found it. He gives the following demonstration that Chicago is to-day a much more healthful city than it was found a dozen years ago:

> Its death rate during 1893 was 212 in every ten thousand of its population of all ages. In 1904 the rate was 136 in every ten thousand. Improvement in general [illegible] r cent.
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> In 1893 there died 8,125 infants [illegible] under 1 year of age—a rate of 246 per thous [illegible] of 40,578 living under 1 year, there died 5,125—a rate of 124 per thousand. Reduction of infant mortality—50 per cent.
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> In 1893, out of a child population of 121,564 living between 1 and 5 years of age, there were 4,328 deaths—a rate of 35 per thousand. Last year, out of 162,315 children living at this age-period, there were 2,027 deaths—a rate of 13 per thousand. Saving of child-life—64 per cent.
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> In 1893 the aggregate ages of the 27,083 individuals who died during that year amounted to 617,492 years, or an average of 22.8 years each. In 1904 the aggregate ages of the 26,311 decedents footed up 855,107 years—an average of 32.5 years each. Increased duration of life during the last twelve years—42.5 per cent., or an increased "expectation of life" of 9 years and 9 months for every man, woman and child living in Chicago.

IOWA.

New Hospital for Carroll.—St. Anthony's Hospital, Carroll, erected at a cost of $60,000, was formally opened June 15.

Tuberculosis Lectureship Established.—The State University College of Medicine, Iowa City, has established a lectureship on tuberculosis and has appointed Dr. John W. Kime, Fort Dodge, to the position of lecturer.

State Health Officers.—At the annual meeting of the Iowa Association of Health Officers at Iowa City, June 13, the following officers were elected President, Dr. Louis A. Thomas, Red Oak (re-elected); *vice-president*, Dr. George P. Neal, Fort

Madison, and secretary and treasurer, Dr. Cassius T. Lesan, Mount Ayr. A midwinter meeting will be held in Des Moines in January, 1906, and the annual meeting in June at Waterloo.

Personal.—Dr. Harvey G. Hieber, Cedar Falls, is studying in Vienna.——Dr. and Mrs. Henry Albert, Iowa City, sailed from New York June 15 on the *Friederich der Grosse*.——Dr. Oscar C. Wilhite, Cherokee, has been appointed superintendent of the new state hospital for inebriates at Knoxville, which will open in September.——Dr. James J. Ransom, Burlington, has returned from Europe and has gone to Vermont for the summer.

Warning.—Subscribers to The Journal and members of the American Medical Association in Iowa are warned against paying subscriptions or dues to any unauthorized individual. A Des Moines physician who was induced to give such a person a check for his annual dues, describes him as a "seedy-looking individual and evidently a victim of alcohol or morphin or both." He was very anxious to have the dues paid in cash, but our correspondent was prudent enough to give him a check which has not yet been presented for payment.

MARYLAND.

Personal.—Dr. John W. Lacy, Lisbon, sailed for Liverpool on the *Oceanic*, June 6.

New Doctors.—On June 21, 124 candidates presented themselves for examination by the State Medical Board, including one negro, a graduate of the Medical-Chirurgical-Theological College of Christ's Institution, heretofore mentioned in these pages.

Baltimore.

Hospital Incorporated.—Good Samaritan Hospital and Dispensary was incorporated June 20, without capital stock.

Children Transferred to Summer Home.—The fifty patients of the Hospital for Crippled and Deformed Children were transferred to the summer hospital in the Blue Ridge Mountains, June 22. There they are quartered in Army hospital tents, each holding twelve.

Personal.—Dr. Arthur M. Shipley has been re-elected medical superintendent of the University Hospital.——Drs. Hugh W. Brent and E. Hansen, late residents in the same hospital, are spending the summer in Scandinavia.——Dr. Edward Janney sailed for Genoa on June 17.——Dr. John C. Hemmeter received the degree of LL.D. at the commencement at St. John's College, Annapolis, last week.——Dr. L. Ernest Neale delivered the address to the graduates at Loyola College, Baltimore, June 22.——Dr. Ira Remsen, president of Johns Hopkins University, has left for Northeast Harbor, Maine, where he will spend the summer.——Dr. Harry Friedenwald will leave for Europe July 13, to be gone two months.——Dr. Friedenwald was elected president of the Federation of American Zionists at its meeting in Philadelphia, June 20.

MASSACHUSETTS.

Fewer Need Help.—The board of overseers of the poor in Boston spent $114,205 in 1904, aiding 2,248 families, as against 4,403 in 1884.

School Closed—As 20 cases of diphtheria occurred among the 700 pupils of the Adams school, Quincy, the building has been closed for the rest of the term.

Tuft's College Commencement.—Tuft's College granted twelve degrees in medicine June 20. Of the nine degrees "cum laude," five were awarded to young women out of a total of twelve in the class.

East Boston Hospital Hopes Raised.—Hopes of a hospital in East Boston are again revived by a conference between the mayor and the trustees of the City Hospital. It is likely that a relief hospital will be the outcome, to be conducted like that in the North End, as a branch of the main city institution. The expense of building and maintaining such a station would be much less than that of the larger permanent hospital authorized by the state legislature.

City Physicians of the State.—The City Physicians of Massachusetts have formed an organization and held a banquet June 20 in Boston. The officers of the temporary organization are as follows: Dr. Edwin P. Gleason, Brockton, president; Dr. George L. Black, Lawrence, vice-president; Dr. William D. McFee, Haverhill, secretary and treasurer, and Drs. Henry C. Hallowell, Quincy; F. N. Murphy, Taunton, and Thomas E. Caulfield Woburn, executive committee.

Gubernatorial Appointments.—The governor has made the following appointments: Dr. William N. Bullard, Boston, trustee to the Hospital for Epileptics; Dr. Samuel G. Webber, Boston, trustee to the Hospital for Dipsomaniacs and Inebriates; Dr. Andrew H. Hodgson, Dedham, medical examiner of Norfolk County; Dr. John C. Irish, Lowell, medical examiner of Middlesex County; Dr. Everett M. Bowker, Brookline, associate medical examiner of Norfolk County, and Dr. Harry M. Cutts, Brookline, medical examiner of Norfolk County.

MISSOURI.

St. Louis.

Mayor vs. Health Commissioner.—Charges were filed June 26 by Mayor Wells of St. Louis against Health Commissioner Dr. John H. Simon with seven counts, alleging failure to devote his entire time to the work of his office, neglect of duty, willful abuse of official power, annoying and harassing superintendents of city institutions, etc.

Skin and Cancer Hospital.—A skin and cancer hospital will shortly open. It is intended to make the research idea prominent in the conduct of the institution. Dr. Martin F. Engman is credited with having originated the idea of the establishment of this hospital. It will be located corner of Jefferson Avenue and Locust Street in the hospital building formerly used by Dr. H. Tuholske.

City Hospital Open.—The new City Hospital of St. Louis is now open. The patients from the old building are being moved to the new. The isolation ward will be used temporarily as the administration building until the building for that purpose, now in course of erection, is finished. The new hospital is modern in every particular. It is four stories high and will accommodate 400 patients without crowding.

NEW YORK.

Hospital Incorporated.—St. Joachim's Hospital, Watertown, "to nurse and care for the sick and injured," was incorporated June 16.

Endows Memorial Bed.—Mrs. James R. Willets has given $3,000 to the Nassau Hospital Association to endow a bed to be known as the James R. Willets bed, in memory of her husband.

Pure Food League Incorporated.—The National Pure Food and Drug League was incorporated at Albany on June 19, to work for pure food, drugs and beverages by moral and legal methods. The principal office will be in Albany.

Stony Wold Sanatorium.—The fourth annual report states that 68 patients have been restored to their places in the world as wage earners as the result of the treatment employed at Stony Wold last year.——An entertainment given by the Junior Auxiliary at Ardsley has netted $800 for the sanatorium.

Milkmen Alarmed.—About thirty milk dealers awaiting trial in the Court of Special Sessions were considerably alarmed when it became known that one of their number who had been tried for a second offense had been sentenced to fifteen days' imprisonment. The New York State Board of Agriculture has sent out an order forbidding the storage or sale of any milk or milk product in unclean receptacles or in buildings with insanitary surroundings. It is the expressed intention of the Commissioner of Agriculture to proceed against persons violating the order.

Personal.—Dr. Emerson B. Lambert, Port Jervis, has been appointed an official visitor to the Middletown State Homeopathic Hospital.——Dr. Charles D. Graney has been made secretary of the Le Roy Board of Health.——Dr. Arthur H. Terry, Patchogue, while going to Sayville to assist in an operation, was thrown from his automobile by a collision with a hidden hydrant and bruised about the head and shoulders.——Dr. Walter A. Scott, Niagara Falls, who was recently operated on for appendicitis, is reported as making favorable progress toward recovery.——Dr. Henry D. Sill, Cooperstown, has been appointed a member of the board of managers of the Binghamton State Hospital.

New York City.

Strauss Milk Depots Opened.—Sixteen stations were opened June 24 for dispensing milk to the children of the poor.

Conrad to Sing Sing.—Dr. Edward E. Conrad, whose conviction for attempted abortion was affirmed by the Court of Appeals, was sent to prison June 18 to serve a term of not less than one year nor more than two years.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended June 17, 746 cases of measles, with 31 deaths; 373 cases of tuberculosis, with 152 deaths; 281

cases of diphtheria, with 31 deaths; 142 cases of scarlet fever, with 5 deaths; 68 cases of cerebrospinal meningitis and 42 deaths; 45 cases of typhoid fever, with 13 deaths; 108 cases of varicella.

New Hospital for Consumptives.—Plans have been filed for the building of a new hospital on the southwest side of North Brother Island at a cost of $150,000. It will be exclusively for the treatment of consumptives and will be equipped with all the newest appliances for the treatment of this disease. Most elaborate arrangements will be made for heating and ventilating and it is proposed to make the hospital a model for institutions of this class.

Seaside Hospital Begins Work.—St. John's Guild has announced the opening of its seaside hospital at Newdorp, Staten Island. In its twenty-four seasons this institution has treated 31,163 children and their mothers, from among the poorest of the city, and absolutely without cost to them. Until the floating hospital begins its trips patients for the seaside hospital will be met at the Staten Island ferry and, after an examination by the doctor, will be sent to the hospital.

Personal.—Dr. William S. Bainbridge has been appointed consulting gynecologist at St. Mary's Hospital, Jamaica, L. I.——Dr. J. G. Johnson of Brooklyn was thrown from his buggy and escaped with slight injuries.——Dr. Daniel Stimson sailed on the *Rotterdam* for Boulogne, June 20.——Dr. and Mrs. Edward H. Griffin and Dr. Alexander T. O'Malley sailed on the *Patricia* for Hamburg, June 24.——Dr. and Mrs. William S. Bennett sailed on the *Furnessia* for Glasgow, June 24.——Dr. and Mrs. W. A. Crofoot arrived home on the *Potsdam*, June 20.——Dr. Frank J. Parker sailed for Europe June 15.

The Risk of Consumption.—Justice Marean of the Supreme Court in Brooklyn has handed down an opinion telling why he had granted a temporary injunction restraining the Board of Health from establishing a clinic for consumptives in Henry street, Brooklyn. The substance of this decision is that if the breathing of street dust containing the germs of tuberculosis is a menace to health, the more germs there, the greater work will be the risk, and that the establishment of a clinic for the treatment of this disease would bring many victims into the neighoorhood and thus materially increase the danger to dwellers in the vicinity.

OHIO.

New Department to Treat Tuberculosis.—The Cincinnati Polyclinic has established a free department for the treatment of tuberculosis under the direction of Drs. B. F. Lyle, C. E. Iliff and J. H. Schroeder.

Personal.—Dr. Bernard R. Le Roy, Chagrin Falls, sailed June 18 for Porto Rico. He will visit Central America and Mexico before he returns.——Dr. Aloysius P. Renneker, Cincinnati, was thrown from his buggy by a collision with a street car June 22 and slightly injured.

Bars Dangerous Explosives.—The Cleveland city council has passed an ordinance governing the use of fireworks, which closes as follows: "And the permission hereby given to explode fireworks on the Fourth of July shall not extend to nor include blank cartridges, blank cartridge pistols, nitroglycerin, fireworks containing nitroglycerin, repeating marbles, toy cannons or dynamite torpedoes." This ordinance has been passed by the efforts of the legislative committee of the Cleveland Academy of Medicine.

To Protect Public Against Contagion.—The assistant city solicitor of Cincinnati recently rendered a decision to the health officer that hereafter where circumstances warrant, for the protection of the public against contagion, the health authorities can remove a person suffering from consumption from a private home to a quarantine hospital, inasmuch as the State Board of Health has declared tuberculosis to be a contagious disease. However, as there is not such immediate danger of contagion from this disease as from smallpox, no hasty action should be taken. The most thorough investigation and consideration must be given to a case before such action is taken and there must be no doubt about the immediate danger of contagion before it is done. The health officer must also exercise great care not to cause unnecessary hardship on a person or family in such a case.

Cincinnati Faculty Changes.—At a recent meeting of the Medical College of Ohio, Medical Department of the University of Cincinnati, Drs. Phineas S. Connor, dean of the faculty and professor of surgery, and Thaddeus A. Reamy, professor of gynecology, resigned. Dr. Frederick Forchheimer was elected dean; Dr. Joseph, professor of surgery; Dr. H. J. Whitacre, professor of the principles of surgery; Dr. S. P. Kramer, professor of surgical pathology; Dr. Samuel Iglauer, associate professor of laryngology; Dr. P. S. Connor, emeritus professor of surgery and professor of clinical surgery; Dr. Thad. A. Reamy, emeritus professor of gynecology; Dr. E. Gustave Zinke, professor of obstetrics and gynecology; Drs. C. L. Bonifield and C. A. L. Reed to the executive faculty.——At a recent meeting of the faculty of Miami Medical College Dr. Edward W. Walker was elected professor of the principles of pathology; Dr. Oliver P. Holt, professor of pathology; Dr. Frank Lamb, lecturer on physiology, and Dr. Edward H. Shields, professor of skin and venereal diseases.

PENNSYLVANIA.

Heat Prostrations.—Many cases of heat prostration were treated in the hospitals of Philadelphia during the hot days in the early part of the week. On June 19 the thermometer registered 94 degrees. This temperature has never been exceeded during the last thirty-five years. Several deaths were recorded in Philadelphia and also a large number of prostrations and deaths in the other cities of this state, particularly Pittsburg.

Assistants to State Health Commissioner Appointed.—Dr. Samuel G. Dixon, the newly appointed commissioner of health, announced the following appointments June 22: Assistant commissioner of health, Dr. Benjamin Lee, who was for many years treasurer of the state medical society and was appointed secretary of the State Board of Health in 1885, and Dr. Frederick C. Johnson, Bradford, was appointed chief of the division of inspecting, quarantining and disinfecting.

Philadelphia.

Physician Exonerated.—Dr. Horace Ladd, who was arrested, charged with performing a criminal operation resulting in the death of a patient, was exonerated by the coroner's jury June 22.

Malpractitioner Sentenced.—Philip M. Pierson, alias "Dr." White, 72 years old, pleaded guilty in Quarter Sessions to the charge of malpractice and was sentenced to eighteen months in the county prison.

Personal.—Dr. Charles K. Mills has been appointed consulting neurologist to the American Oncologic Hospital, and Dr. Samuel McClary III has been elected assistant pathologist to the same institution.——Dr. Thomas Hunter sailed for Europe June 22.——Dr. and Mrs. Oram Ring will sail for Europe the first week in July.

Medical Inspection in May.—During May 3,688 inspections were made by the medical inspectors, excluding schools. They ordered 540 fumigations and came in contact with 58 cases that required special diagnosis. They made 5,186 visits to the different schools throughout the city and excluded 863 children from the schools. They took 162 cultures for examination, made 105 injections of antitoxin and performed 580 vaccinations.

Bequests.—By the will of Mrs. Pauline E. Henry, one of the founders of the Germantown Hospital, that institution receives $10,000. The sum is to be used for the support of two free beds for incurable female patients. Besides this sum she bequeaths $5,000 as an endowment fund, and the remainder of her estate is to be utilized to establish another ward or hospital for convalescent female patients and children. The testator also bequeaths $2,000 to the Woman's Hospital to endow a scholarship for nurses.

Health Report.—The number of deaths reported for the week ended June 24 aggregated 451, an increase of 31 over those reported last week and an increase of 56 over those of the corresponding period of last year. The torrid wave early in the week was partially responsible for this increase. The principal causes of death were: Typhoid fever, 14; diphtheria, 3; consumption, 53; meningitis, 2; cancer, 18; diabetes, 6; apoplexy, 24; heart disease, 43; acute respiratory disease, 28; enteritis, 62; Bright's disease, 33, and sunstroke, 3. There were 227 cases of contagious disease reported, with 17 deaths, as compared with 269 cases and 29 deaths during the preceding week.

Medical Visits in Schools.—The report of the assistant medical inspectors of their visits to the schools throughout the city from September, 1904, until June 1, showed that 46,196 visits were made. During this period 111,100 school children were examined. Of this number 513 cases required special diagnosis. The inspectors performed vaccination on 13,120 individuals. They took 2,466 cultures from suspicious sore throats and made 1,034 injections of antitoxin. They also made 4,577 visits to typhoid fever patients; 3,144 visits to diphtheria cases; 2,199 to scarlet fever; 2,615 to chicken pox; 738 to tuberculosis, and 19 to smallpox cases. Prior to the increase in the number of inspectors it was the custom to pay other physicians 40 cents for each vaccination alone. The statistician of the health office has figured that according to the visits made by the medical inspectors and their salary—$1,200 a year each—the cost to the city was a trifle over 30 cents for each visit.

Observations on Cerebrospinal Fever.—The following is the report of the observations on cerebrospinal fever made by the medical inspectors:

> Since the published report on "Epidemic Cerebrospinal Meningitis" in the "Bulletin of the Bureau of Health" for week ending April 8, 1905, a careful study and critical analysis has been made of the clinical data submitted to this office by the medical inspectors, who were instructed to secure from family physicians a complete history of every case reported to bureau, from September, 1904, to date of this issue.
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> The result of this research has disclosed information of a very satisfactory nature, so far as the health of the city is concerned; but discouraging, when we consider the little progress made in its treatment, so far as reducing its percentage of mortality; then too, no satisfactory light is thrown on the method of transmission.
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> Despite the mild hysterical condition of the people, due doubtlessly to exaggerated newspaper accounts of the prevalence of cerebrospinal meningitis in this city, the facts revealed are most comforting. Since September, 1904, there have been only 50 cases of the epidemic form of this disease. In two or three of these cases, the inspectors had reason to believe the symptoms were not clearly interpreted; but were unable to secure more satisfactory data. This has compelled us to add a few cases which were decidedly doubtful.
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> These cases were distributed throughout the length and breadth of the entire city. From Germantown on the extreme northwest border, to Southwark on the southeast; and from Frankford to Paschalville in the Fortieth ward. Cases were found in 30 of the 42 wards of Philadelphia. In four instances two were taken from same house; but with these exceptions, there was but little evidence to show the disease was transmitted directly, as the others were scattered broadcast over the city. All history of contact being positively excluded in the large majority.
>
> Age, seemingly, figures as a predisposing factor, as but three of the fifty cases were over thirty years of age, and 80 per cent. were twenty or under. People of all colors seem to be attacked alike. The number of blacks reported was in proportion to the percentage of the white population.
>
> That sanitary environment is not the dominant influence in the etiology of this malady, was demonstrated by the fact that in thirty-eight of the homes of those afflicted, or 80 per cent. of houses in which cases were found, the inspectors reported the surroundings to be in good sanitary condition.
>
> Lumbar punctures were made in but sixteen instances, with positive results in all but one. As many of the patients were treated in their own homes, this important aid in diagnosis was often omitted for lack of proper facilities. Of the entire fifty cases reported, thirty-two died, showing a mortality of 64 per cent.
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> On tabulating the symptoms, we found that with but four exceptions, none of the classical phenomena was conspicuously constant. The four exceptions were abrupt onset, vomiting, cephalalgia, and stiffness of neck. These symptoms were present in 75 per cent. of the cases. Kernig's sign was elicited in 50 per cent., and herpes in only 20 per cent.
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> When we compare total of fifty cases in this city, with a population of approximately 1,500,000, with the reports of the prevalence of this disease in some of the other large cities, the community of Philadelphia has ample reason to be congratulated.

SOUTH CAROLINA.

The New State Journal.—The first number of the *Journal of the South Carolina Medical Association* was issued June 21. Dr. T. P. Whaley, secretary of the South Carolina Medical Association; Dr. Robert Wilson and Dr. Charles P. Aimar of Charleston, are the editors. Attractive in form and composition, it will prove of great value to the organized profession in the state. The greater part of the first number is devoted to a report of the annual meeting of the South Carolina Medical Association at Greenville, and to reports of committees and county societies. It also contains the annual address of the retiring president, Dr. Robert Wilson, Jr., and a number of original articles.

GENERAL.

More Hospitals for Panama.—The Panama Canal Commission has decided to build several new hospitals, one at Empire, with 500 beds; one at Colon, with 96 beds, and one at Taboga, with 100 beds; also a sanitarium at Panama. The hospitals at Panama will be rebuilt and equipped with modern appliances and accommodations.

Yellow Fever in Panama.—According to dispatches, the sanitary conditions of Colon and of Panama show no improvement. From June 4 to 12 four new cases of yellow fever were admitted to the hospitals. Of these 2 patients were Americans. Two deaths from yellow fever occurred in Panama during the week ending June 12, and 4 in Colon.

FOREIGN.

Institutions for Phototherapy in Italy.—A group of physicians at Milan have opened a subscription to provide the public hospital with an equipment for free Finsen treatment of lupus. Florence already has an institution of the kind.

Sanitarium for Returning Insane Russian Soldiers.—The great influx of soldiers returning from the seat of war with nervous and mental affections has led to the organization of a number of physicians for the purpose of founding a private sanitarium. The capacity of the military hospitals has long been exhausted.

Schmidt of Marburg Receives the Hanburg Prize.—The Hanburg prize for promoting progress in chemistry and pharmacognosy has been awarded this year to Prof. E. Schmidt of Marburg. The presidents of the British Pharmaceutical Society, the Chemical Society and the Linné Society are members *ex officio* of the committee in charge of this biennial prize.

Ehrlich and Cajal Elected Members of the Paris Academy of Medicine.—At the session of May 23 this society voted to elect Ehrlich and Ramon y Cajal foreign associate members. The list of names proposed included, beside these, Sir William Broadbent of London, von Esmarch of Kiel, Hansen of Bergen, and Morisani of Naples, Broadbent receiving the next largest number of votes.

French Medical Mission in China.—In 1902 the French obtained permission to open a hospital in Tchentou, a city in western China. The viceroy has been pleased with the work done by the hospital, and government quarters have now been allotted for the organization of a medical college. Thirty-two students have already applied and a special building is now being constructed for the college.

Lime in Treatment of Tuberculosis.—*Angiulli of Naples* has accepted the theory of excessive loss of mineral elements as the main factor in preparing the soil for tuberculosis or in keeping it favorable. He therefore treats the disease by hypodermic injection of soluble lime salts. He has been exhibiting at Rome a number of patients cured by this remineralization, and is urging others to give it a trial.

The Italian Asylum for Orphans of Physicians.—A letter from Rome in the *Münch. med. Wochft.* for May 9 describes this institution. It is located at Perugia, about the center of Italy, and was founded by private benevolence, but is maintained by a small tax on all physicians in the paid employ of cities, states or communities throughout the kingdom. It is managed by a committee of 15, the majority of whom reside in Perugia; the others are rarely able to go there to aid in the administration of the asylum. The boys are housed in a gloomy, cold, damp building built for a monastery, and the girls are boarded out in a local young ladies' seminary. The expense is comparatively high, each of the wards costing the state about $200 a year.

Russian Physician Beaten.—Our European exchanges have had considerable to say lately in regard to the outrage inflicted on a prominent Russian physician by the commanding general in the Caucasus, General Kowaleff. The physician had no acquaintance or connection with the general, but came to his residence in response to a professional summons, the messenger stating that the general was very sick. When he arrived he found the officer drinking wine at a table with a friend, and a glass was courteously offered the physician. As he took it he was seized from behind by seven Cossacks, stripped and knouted savagely, and then carried home in a carriage. No cause for the outrage could be surmised, and the entire profession was indignant. The general was summoned before the military court and was mildly censured but not otherwise punished. The protests were so vigorous that further court proceedings were instituted against him, but the latest news is to the effect that he has committed suicide.

The Spirochaete Pallida and Syphilis.—An editorial in the *Münch. med. Wochft.* for June 13 comments cautiously but exultantly on the testimony that is accumulating in favor of the assumption that in the *Spirochaete pallida* the germ of syphilis has at last been discovered. The prominence of its discoverer, Schaudinn, one of the leading authorities on protozoa in the world, and the prominence of the scientists whose control investigations have confirmed his findings, compelled respectful attention at once to their statements. The control list includes Metchnikoff of Paris, C. Fraenkel of Halle, Lehmann of Würzburg and many others. These have all found the *pallida* in the lesions of acquired or inherited syphilis and nowhere else, but to date it has proved impossible to cultivate this delicate spirochaete in pure cultures. Schaudinn is in charge of the protozoa laboratory of the government public health department. Koch's discovery of the tubercle bacillus was also made under the auspices of the same German "Kaiserl. Gesundheitsamt."

Marmorek's Antituberculosis Serum.—Prof. E. Lewin of Stockholm was sent by the Swedish government to Paris last December to examine into the production and action of Marmorek's antituberculosis serum. He spent several months on the mission and has returned convinced that its results justify further trials on a large scale. He states that Marmorek has a record of 400 cases treated by himself or others in various lands, and fully 100 can be regarded as cured. The proportion in 100 cases of surgical tuberculosis was 80 per cent. cured or immeasurably improved, without any adjuvant measures. These proportions were about the same as in the numerous cases inspected at intervals by Lewin in Paris, Switzerland, and elsewhere. The serum has no toxic action as it contains the antitoxins alone. On the basis of this favorable report the serum is being tried now extensively in Sweden, Marmorek having presented him with 2,000 vials free of charge. Dr. A. Marmorek was connected with the Paris Institut Pasteur until recently and still resides in Paris.

Work of the Board of Public Health in Mexico.—The bulletin issued by the public health department of Mexico for May gives the report of N. del Rio, chief of the yellow fever service in Vera Cruz, for April. The energy and efficiency displayed are evident from the fact that all non-immune persons are closely watched, the chief reporting 37,913 visits made to non-immune persons during the month. He also states that 685 non-immune persons entered and 495 left the city during that time. As many as 1,501 deposits of water were petrolized and 57 house owners were notified to make certain repairs or improvements, while the department cleaned 29 premises and disinfected 85 houses in which cases of tuberculosis, measles or malaria had occurred. Not a single case of yellow fever developed during the month, although the weather was hotter than for years, and almost every disease was complicated with an icteric condition due to the excessive functional activity of the liver at this temperature. He adds that the defective condition of the water pipes causes so much leakage of water that the supply is not enough for the city, and reserve supplies are kept on hand in barrels, etc., thus providing unusual opportunities for the breeding of mosquitoes.

Cuban National Medical Congress.—The physicians of Cuba gathered at Havana May 20 on the "independence day" of the republic, for the first national medical congress. The subjects appointed for discussion were the prophylaxis of yellow fever and malaria, parasitology in Cuba, also the campaign against tuberculosis, and the sanitary statistics of the island. J. A. Presno of Havana, editor of the *Revista de Med. y Cirugia*, was the secretary general, and the issue of the *Revista* for that date is a bulky number containing several of the communications. Among them is one by Landa, giving instances of the noxious influence of the abuse of tobacco on the hearing. He also urges careful antisepsis of the nose and throat in prophylaxis of ear affections during and after infectious diseases. For this he advises inhaling the steam of boiling water, to which a spoonful of an alcoholic 4 per cent. solution of menthol has been added. Or the nose can be disinfected with a salve containing 5 parts boric acid and .5 part menthol in 30 parts vaselin. For a gargle he orders 5 gm. salol and 10 drops each of tincture of mentha and tincture of eucalyptus in 100 gm. alcohol. One teaspoonful of this mixture is added to a cup of hot water and used as a gargle or spray. Mon calls attention to his low mortality rate of less than 6 per cent. in 47 cases of typhoid fever. The general average in Havana is over 28 per cent. He gives an energetic saline purgative on the suspicion of typhoid, and a weaker one the next day. Then he urges the patient to drink freely, but allows no food for eight or nine days, thus giving the inflamed bowels a rest and chance to recuperate. Quinin and benzonaphthol are given every day and modified Brand baths as indicated. Two of the three fatal cases were not seen until the second week, and the third patient was a confirmed alcoholic. Recovery was exceptionally rapid and complete in his series. Menocal reports 3 cases of pneumococcus infection localized in the genitals, a few weeks after an attack of pneumonia. The patients were men 38 to 51 years old. Albarran of Paris describes what he calls a new procedure for subcapsular nephrectomy. Its special feature is the ease with which the pedicle can be taken care of. He rinses out the cavity with H_2O_2, never using a toxic antiseptic in kidney surgery. D. Francisco discussed surgical intervention on persons addicted to the ether or chloroform habit. The congress proved successful beyond all anticipations, more than a hundred papers being on the official program, the speakers representing all parts of the island.

LONDON LETTER.

Finger-Print Evidence.

A recent brutal murder for the purpose of robbery of an old man has led to a legal dispute as to the value of finger-print evidence in which the judge severely censured a physician called by the defense. The accused were two lads, thieves by occupation, and the evidence was entirely circumstantial. One of the strongest points was a finger print impression left on a cash box. Inspector Collins of the Scotland Yard finger-print department stated that the department had now between 80,000 and 90,000 sets of records, which meant the impressions of a corresponding number of digits. He had never found two impressions to correspond. The highest number of characteristics he had ever found to agree in the impressions of two different fingers was three, and only two or three such instances had occurred. The right thumb of one of the prisoners agreed with the mark on the cash box, there being twelve characteristics in common. For the defense a physician was called who said that he had a large experience in the finger-print system, and was employed by the government in 1894 to undertake the organization of the finger print and Bertillon system and that he had trained a staff of police officials. He described points of dissimilarity between the two prints. He thought it was possible that they were prints of the same person, but that they were undoubtedly of different fingers. In cross-examination he admitted that he had no experience of identification by finger prints since 1901. He thoroughly damned his evidence by having written both to the prosecution and to the defense, offering to give evidence on behalf of whichever retained him. When pressed on this point he said "I am an independent witness." The judge then interjected: "An absolutely untrustworthy one." When counsel for the defense put some further questions the judge exclaimed: "Isn't there a limit to whitewashing this gentleman? It has done your client a lot of harm." The prisoners were found guilty and executed. Any doubt which might have existed was removed by their confession.

The Aims of Tropical Medicine.

At a banquet in aid of the funds of the London School of Tropical Medicine, at which $50,000 was subscribed, Sir Patrick Manson gave a lucid account of the work of the school and sketched a plan for systematic and co-ordinated research in tropical disease centers. This consists in the establishment of colonial research laboratories in places where they are likely to achieve profitable results. Already three such laboratories have been established—in Ceylon, at Kuala Lumpur, in the federated Malay states, and in Hongkong. Sir Patrick Manson suggested that one such laboratory should be established for every group of crown colonies, the director to be in organic relation with the London school, but with a free hand to take up any special line of investigation in tropical diseases. The directors of these laboratories should be educated in their special work at the London School of Tropical Medicine; East Africa, Uganda and British Central Africa might form one group, the West Coast of Africa another, the West Indies and British Guiana a third, Fiji and the Pacific islands a fourth. Thus there would be seven laboratories affiliated with the London School of Tropical Medicine. Sir Patrick Manson also emphasized the importance of educating the natives in tropical hygiene. He suggested that tuition in the rudiments of the subject should be included in the curriculum of colonial government schools, so that when the child grows up he may be willing to submit to sanitary measures. Without the co-operation of the natives it is hopeless to try to get any scheme, however good, carried out. A necessary preliminary is the preparation of primers for the instruction of school teachers who in turn would teach children.

The Concentration of Scientific Teaching in London.

The problem of concentrating the teaching of the preliminary and intermediate subjects of the medical curriculum in a few centers has long occupied the attention of reformers in medical education. Its solution would necessarily produce greater efficiency in teaching and economy in expenditure. Huxley suggested it thirty-five years ago, but until recently it made no progress. The report of the committee of the King's Hospital Fund on the financial relations between the hospitals and medical schools (referred to previously in The Journal), has given it an impetus. The Westminster Hospital Medical School has completed negotiations for the transfer of the teaching of chemistry, anatomy, physiology and materia medica to King's College. Similar negotiations are in progress between other hospitals and King's and University College. Probably there will be three centers in London where medical students can take the scientific part of their curriculum—King's College, University College and the Institute of Medical Science of the University of London.

The Dangers from the Red Rubber Rings of Stoppers of Bottles.

A physician, writing to the *Lancet*, calls attention to a previously unrecognized source of poisoning—the red rubber rings used in the stoppers of bottles—to which he is inclined to attribute appendicitis and other intestinal disorders. He was put on the track in this manner: While visiting a patient he observed a young girl whom he knew looking very ill and depressed, behind the counter of a shop. She stated that she had felt ill for the last two days and was getting worse. Her pulse could scarcely be felt and her hands were cold and clammy. Three hours later he was summoned to her and found her suffering from acute appendicitis. There had been no pain previously. She was removed to a hospital and the appendix was removed. This case gave him the idea that the cause of appendicitis was something which produced first general depression. He learned that the girl was in the habit of drinking daily about six bottles of non-intoxicating drinks which she bought in bottles and that she was the only one of the family who did so. He then inquired of all his patients who had suffered from appendicitis, nine in all, and found they had been drinkers of non-intoxicating drinks from bottles fitted with red rubber rings. On submitting the rings to a chemist for analysis he received the report that antimony could be extracted from them with an alkali and that there was no doubt that alkaline waters and those containing organic acids would have a solvent action on the antimony of the rubber. Further inquiries showed that the red rubber from which the rings were made had the following composition: Rubber, 20; sulphid of antimony, 12; red oxid of zinc, 5; sulphur, $\frac{1}{8}$,and lime, $\frac{1}{4}$. In use the rings are worn down from one-eighth of an inch thick to the thinness of paper and present innumerable cracks and become brittle. Small particles fall into the bottles and are swallowed in the drink. The rings are used in all sorts of bottles—beer bottles, "mineral water" bottles, syphons "sparklets," pickle bottles, and jelly and preserved fruit bottles. The physician suggests that the antimony has a depressive influence on the muscles of the intestine and produces constipation, which in turn leads to appendicitis and other disorders. Whether this theory be true or not, there can be no doubt that he has discovered an unrecognized source of antimonial poisoning.

The Dangers of Jewish Circumcision.

The case of a Jewish child circumcised by a mohel (a rabbi performing circumcision), has been the subject of a coroner's inquest. An hour after the operation there was hemorrhage which the mohel attempted to arrest but failed. He then sent for a physician, and after some delay one arrived. Eventually three physicians were summoned, but they failed to arrest the hemorrhage and the child died. The coroner censured the mohel for not sending for a physician earlier and said that but for the fact that he had done so in the end he would have committed him for trial for manslaughter.

The British Medical Association.

The seventy-third annual meeting of the British Medical Association will be held in Leicester, July 24-28, 1905. The committee is endeavoring to make the annual pathologic museum, usually such an important feature, an exhibition of the progress made in medicine as well as a means for examining the various specimens which form the groundwork of the papers read at the sections. In connection with the food, drug and instrument exhibition a motor car show will be held, at which motors especially suited for physicians will be on view. The meeting will comprise twelve sections.

Pharmacology

ACETANILID MIXTURES.

Whatever is secret is suspicious, and this axiom applies especially to medicines that are secret in character. One reason for the success of secret nostrums lies in the fact that extravagant claims are made for them, which on their face would be ridiculous in the extreme if their true composition were known. Remove the mystery surrounding these preparations and their wonderful virtues would vanish. When the secrecy is revealed and the mystery removed the therapeutic claims appear so absurd that they are laughable. Having shown the true character of some of the secret mixtures (see Journal, June 3, 1905, p. 1791), we thought the publication of some of the "literature" supplied by the manufacturers would make interesting reading. Last week we reproduced "literature" regarding phenalgin and ammonol; below we have made some extracts from the advertising matter of antikamnia and salacetin. The latter, according to the analyses, being an acetanilid mixture which, combined with codein, goes under the euphonious and catchy name, "Sal-Codeia Bell."

Antikamnia.

Our readers will be interested to learn some of the remarkable properties which, according to the statements of the manufacturers, this antikamnia possesses. We quote from the advertising literature:

> The well-known nerve specialist (?), Dr. Harley, in an interview published in the *London Daily Express*, says: "I have treated more than one American for nervousness and 'brain fag' directly due to their incessant energy. I had a young man in here this morning who complained of headache 'in the back of the neck.' He was threatened with congestion of the brain, and seemed somewhat aggrieved when I told him he had been trying to do too much.
>
> "I also treated a young American woman, who since her arrival in London had apparently been living on antikamnia tablets by the advice of her physician. It was the only thing, she said, which kept her 'braced up' for the strain of sight-seeing."

(Why did the young woman consult this Dr. Harley—for the drug habit?)

Note the following:

> For the severe pains of rheumatism, dysmenorrhea, neuralgia, gout, sciatica and lumbago, as well as for the lightning pains of locomotor ataxia, there can be no quicker and more lasting relief obtained than by the administration of antikamnia and codeine tablets.

Imagine an intelligent physician trying to treat the diseases mentioned below with the various impotent means of the pharmacopeia and physiological therapy when he might depend on antikamnia! We quote again:

> As a Pain Reliever.—In headache, cephalalgia, hemicrania, migraine [some other words might have been thrown in so as still more to emphasize the headache business], myalgia, coryza, la grippe and its sequelæ, the lightning pains of locomotor ataxia and all pains due to irregular menstruation.
>
> As an Anodyne or Sedative.—In alcoholic delirium, indigestion, cardialgia, gastralgia, dyspepsia, hysteria, insomnia, inebriety, car-sickness, sea-sickness, worry and sightseer's fatigue.
>
> As an Antipyretic.—In typhoid, intermittent, puerperal and malarial fevers, bronchitis, pneumonia, pleurisy, and tuberculosis.
>
> As an Anti-Neuralgic.—*In acute or chronic neuralgia, facial neuralgia*, earache, *pain about the teeth, angina pectoris*, neurasthenia, palpitation, pains of locomotor ataxia and sciatica.
>
> As an Anti-Rheumatic.—In acute or chronic rheumatism and gout, fever and pleurodynia.
>
> There is no remedy so useful and attended with such satisfactory results as antikamnia tablets in the treatment of melancholia with vasomotor disturbances, anemic headaches, emotional distress, and active delusions of apprehension and distrust. They increase arterial tension and promote digestion, as well as being particularly serviceable in relieving the persistent headache which accompanies nervousness.
>
> In neurasthenia, in mild hysteroid affections, and in the various neuralgias, particularly ovarian, and in the nervous tremor so often sen in confirmed drunkards, they are of peculiar service. In angina pectoris this drug has a beneficial action; it relives the pain and distress in many cases, even when amyl nitrite and nitroglycerin have *failed entirely*. *In pseudo-angina, frequently* observed in hysterical women, its action is all that can be desired.
>
> Patients who suffer from irritable, weak, or palpitating heart, needing at times a pain reliever, can take antikamnia tablets, without untoward after-affects, knowing that the heart is being fortified. In delirium tremens, they relieve when there are great restlessness, insomnia, the general lowering of the nerve power.
>
> Only the vivid picture of a *crisis in locomotor ataxia, or the* agony of a true migraine, can impress the observer with the full value of this pain reliever.

The following testimonials are from physicians:

Dr. Caleb Lyon, an old Bellevue practitioner, in referring to antikamnia and codeine tablets, says:

> In my practice they accompany the maid from her virgin couch to her lying-in chamber, assuaging the perplexities of maidenhood and easing the trials of maternity with most gratifying results. I earnestly hope that the proprietors of this *valuable remedial agent* will keep it up to its present *standard of purity and excellence*.

Dr. Walter M. Fleming, A.M., M.D., New York City, writes:

> . . . . With all the experience of more than a quarter of a century, in the treatment of winter cough, and all its complications of laryngeal, bronchial and pulmonary irritability, dyspnea, asthmatic spasms, and finally whooping cough—usually the most persistent and tenacious of all these membranous maladies—I find no one remedy more strongly indicated, or which yields more prompt and satisfactory results than antikamnia and heroin tablets,

> composed of antikamnia 5 grains and heroin hydrochloride 1/12 grain. . . . Result; a prompt and efficient expectorant, at once relaxing the harsh and rasping cough, releasing the tenacious, sticky and gelatinous mucous which is soon readily expectorated, while the soothing influence of the antikamnia is at once manifested, greatly to the comfort and contentment of the patient. . . . Independent of the fact of the direct applicability of this remedy to the various membranous maladies of the lungs, bronchi, fauces and nose, it proves also, an invariable remedy in all febrile cases where anodyne is required. This, together with its analgesic and antipyretic merits eminently qualify this combination for a responsive agent in the treatment of nearly all the numerous febrile attacks characterized by pain, nervousness, insomnia and their accompanying symptoms.

"Antikamnia and Quinin."

If there is any virtue in the particular combination known as "antikamnia," a physician prescribing the tablets supposed to contain combinations of "antikamnia" and some other drugs should have some guarantee that they contain those remedies. Take, for example, the tablets advertised and sold as "antikamnia and quinin." It might reasonably be supposed that the tablets contained the combination known as "antikamnia;" this, however, seems not to be the case. Previous analyses, as published by us, have shown that antikamnia contains approximately 20 per cent. of sodium bicarbonate, yet two chemists, working separately, have been unable to find this ingredient in the tablets advertised and sold as "antikamnia and quinin." Are we to understand, therefore, that the manufacturers do not consider the bicarbonate of sodium of importance in their preparation, antikamnia; or are they guilty of misrepresentation, and of misleading physicians in omitting this constituent from their product antikamnia when that is combined with the bisulphate of quinin? The above statement regarding the omission of bicarbonate of sodium from the quinin combination may be verified by any physician who desires to make a few simple chemical tests—carbonic acid is not given off when the tablets are treated with dilute acids, as would be the case if sodium bicarbonate were present. Further, while the ordinary "antikamnia" contains no constituent not soluble either in water or in chloroform, and while quinin bisulphate is readily soluble in water, the tablets said to contain antikamnia and quinin bisulphate, when treated successively with water and with chloroform, leave a residue of more than 18 per cent.

One of the chemists who analyzed the preparation for us, in commenting on this in a letter, says: "The matter which is insoluble in water, alcohol or in chloroform, i. e., the substance which is neither 'antikamnia' nor quinin bisulphate, amounts to more than 18 per cent. in 'antikamnia and quinin bisulphate tablets.' The tablets weigh close to five grains and are said to contain 2.5 grains each of antikamnia and quinin bisulphate. How is this possible when each tablet contains almost one grain of foreign substance (chiefly starch)?"

Further comment is superfluous. We have presented facts to our readers and leave them to draw their own conclusions.

Salacetin and Sal-Codeia (Bell).

Some time ago we wrote to Messrs. Bell & Co., calling their attention to the fact that we had made an examination of their product, salacetin, and that as a result of such examination it was found to be a mixture, which did not coincide exactly with their description of it. They replied that "our description of salacetin is correct and that we have nothing more to impart except that any one publishing any different formula from that given in our circulars will be held responsible by us."

The description they give is as follows: "Prepared by the interaction, with heat, of salicylic acid, glacial acetic acid, and purified phenylamine."

This sounds very scientific, but when we remember that acetanilid is a result of the action of glacial acetic acid on phenylamine—anilin—their description is cute, to say the least. Of course, there is "interaction with heat" when salicylic acid is combining with bicarbonate of sodium to form salicylate of sodium. Further, there is, no doubt, some "interaction with heat" when the substances are rubbed together in mixing them and when they are going through the mill to form tablets, not to mention the heated imagination of the promoters of this "synthetic."

The following, taken from the advertising literature furnished by the manufacturers and distributed by them, is quoted to show the claims made for this preparation:

> "Salacetin is free from Toluodine and produces no harmful cyanosis." In the treatment of Acute Bronchitis, Grippe, Influenza, Tonsillitis, Lithemic Headaches, Rheumatism and Neuralgias, it relieves pain, reduces inflammation and abnormal temperature, and eliminates uric acid [everything eliminates uric acid nowadays, it ought to be all "eliminated" soon] more quickly and thoroughly than the salicylates, and without causing depression or stomachic or renal irritation.
>
> "Have personally interviewed thousands of physicians, including every prominent one in the East, and can honestly state that we have never known of anything at once so efficient and so unobjectionable in the removal of rheumatic and neuralgic pain and other symptoms of the uric-acid accumulation." "La Grippe and Acute Bronchitis it relieves pain and coughing, reduces inflammation and temperature, makes the patient comfortable and checks the progress of the disease. In Tonsillitis its action is specific." "In Acid Cystitis, it neutralizes acidity, reduces inflammation and removes irritation." "In Dysmenorrhea it relieves pain and congestion with no hallucinations, constipation or danger of a drug habit."
>
> "In Dysmenorrhea and Ovarian Neuralgias try Sal-Codeia Bell. It will relieve the pain as well as morphia. It will not check any secretions, induce any habit, cause any depression or inconvenience of any kind."

This is all the space we can give to reading notices this week.

Of course, it is well understood that acetanilid is a valuable remedy in many instances, if used with caution and when indicated. It certainly has some therapeutic value. There is no doubt that it relieves pain of various kinds. It is to be presumed that combining salicylate of sodium with it will have certain beneficial effects in certain rheumatic conditions, on the supposition that salicylate of sodium and acetanilid are both used with more or less success in certain of these conditions. Also, the combining of bicarbonate of sodium, carbonate of ammonia, caffeine, citric acid, one or several of these, may result in a fairly good combination, but these combinations can be found in the list of preparations of all our large manufacturing pharmaceutical houses, which supply them at one-tenth the cost of these secret remedies. The physician in using these preparations put out by reputable, recognized manufacturing pharmaceutical houses, not only is prescribing preparations that are non-secret, but is using remedies that cost one-tenth as much as the secret preparations, which are exploited under fanciful names and pushed by ridiculous claims.

Patent Medicines in Venezuela.

United States Consul Hurst, La Guaira, Venezuela, reports to the Department of Commerce and Labor as follows:

"A measure recently promulgated places in force a regulation of the Association of Physicians of Venezuela whereby sales of secret or patent medicines, unless formally recognized in Venezuela, are to be prohibited, although they may have the approval of foreign medical faculties. Failure to meet the requirements will subject the offenders to the penalties of the law. A permanent commission has been appointed to examine and classify secret or patented remedies. Every manufacturer wishing to sell medicinal preparations in Venezuela must make a statement, in legal form, setting forth: (1) The name of the remedy (2) the full formula, and (3) the dose prescribed. Two samples, accompanied by the foregoing particulars, shall be submitted to the commission. The manufacturer may appoint by letter, if necessary, a local representative to treat with the commission. For each certificate permitting the sale of a medicine a tax of $3.86 must be paid.

"Four months will be allowed foreign and two months domestic manufacturers in which to comply with these requirements. When this time is past the custom-house will place, for two months, importations of this kind in class 5 of the tariff, paying a higher duty, during which period the preparations may still be brought before the commission. After this they will be put on the list of prohibited articles. The custom-house will continue their examination and appraisement as heretofore. New secret or patent medicines, compounded after the termination of the time given, may be submitted for examination on fulfilling the requisite formalities. All preparations allowed sale will bear an authoritative inscription to that effect on the wrappers."

Correspondence

Was the Schoolmaster Abroad?

Woodlawn, Kan., June 20, 1905.

To the Editor:—I note with "laughter akin to tears" the article in The Journal, June 17, by "An Examiner," under the above caption. This matter would be far more laughable were it not so serious. Would it not be eminently proper and just toward all concerned to divulge the name of any institution responsible for the addition to the profession of such graduates as this one? Why talk of medical ethics when, for for fear of injuring the business of some diploma mill or of incurring the displeasure of those connected therewith, we remain quiet and allow impositions like this to be perpetrated, unheralded to the profession? Publicity in such instances as this would do more toward "regulating" medical schools of questionable repute and methods than all the state and medical society laws and resolutions that have ever been enacted. We are under no obligations whatever to a school that has no more regard for medical ethics, the medical profession and humanity in general than to confer the degree of M.D. on a man who thinks the dose of hyoscin hydrobromate is "a half a teaspoonful." The sooner we are rid of such schools the better, and we will not rid ourselves of them by dealing with them gently. W. L. Shelton, M.D.

Smallpox Hospitals and Air-borne Contagion.

Philadelphia, June 17, 1905.

To the Editor:—Referring to a recent editorial in The Journal concerning the observations of some Liverpool physicians concerning the great prevalence of smallpox cases during an epidemic in the territory immediately surrounding the smallpox hospital, as compared with territory some distance from the hospital; referring also to our subsequent correspondence on this matter, and your statement in the editorial that there were but few, if any, contagious disease hospitals located in the built-up portions of cities in the United States, it may interest you to know that the only hospital of this kind in this city is situated in the heart of the residential neighborhood and that during a recent epidemic of smallpox a very large proportion of the cases occurred within a very short distance of the hospital building, thus supporting in a very practical way the experience of the Liverpool physicians.

H. Brooker Wells, M.D.

Mutual Misunderstandings Among Medical Men.

Greenfield, Mass., June 19, 1905.

To the Editor:—Apropos of your editorial in The Journal, June 17, on the above subject, I would call your attention to the recent address delivered by Professor Barker to the Massachusetts Medical Society on "Methods in Medicine," wherein he brings out very clearly the fact that no true and lasting results can be wrought in medicine unless "theory and practice can be brought into conjugal relationship;" also to my own remarks in the introduction to my article on "Ocular Vertigo," read at the same meeting, urging the use of simpler language and a closer co-operation between the specialist and the general practitioner. Benjamin P. Croft.

Association News

Missouri Valley and Minnesota Trains to Unite.

Arrangements have been completed to have the Pullmans of the Missouri Valley special and those of the Minnesota medical societies' special run from Yellowstone Park to Portland in one train with stopovers as follows: Spokane, two hours; Seattle, seven hours; Tacoma, eight hours.

Marriages

Joseph R. Luten, M.D., to Mrs. Lily Adams, both of Fulton, Ky., June 7.

J. I. Rathburn, M.D., to Miss Nettie Whitt, both of Russell, Ky., June 4.

F. N Gordon, M.D., to Miss Louisa Isenman, both of St. Louis, June 7.

Edgar H. Jones, M.D., to Miss Clara Baskin, both of Eldora, Iowa, June 15.

John Lyon, M.D., to Miss Emma Hill, both of Ninety-Six, S. C., June 14.

G. N. Thomas, M.D., to Miss Osa Drummond of Bellington, W. Va., June 7.

Harry G. Hardt, M.D., Hospital, Ill., to Miss Beilfus of Chicago, June 21.

Alanson Weeks, M.D., to Miss Belle Harmes, both of San Francisco, June 7.

Claude F. Fleming, M.D., to Miss Lois Eby, both of Elkhart, Ind., June 20.

Edwin R. Dean, M.D., to Miss Bessie Stover, both of South Bend, Ind., June 23.

Walter N. Sharp, M.D., to Miss Henrietta J. Hill, both of Indianapolis, June 7.

Fitzhugh H. Wolford, M.D., to Miss Bettie Bush, both of Allen, Texas, June 6.

Ralph L. Taylor, M.D., to Miss Katherine Mark, both of Denver, Colo., June 8.

Cyril Haas, M.D., to Ruth M. Dietz, M.D., both of Ann Arbor, Mich., June 12.

E. M. Stewart, M.D., Imperial, Neb., to Miss Hallie Shure of Clinton, Ill., June 8.

Ada McNeil, M.D, Des Moines, Iowa, and S. D. Gordon of Calcutta, India, June 21.

Ernest Thierman, M.D., Horton, Iowa, to Miss Sara Arns of Waverly, Iowa, June 7.

Frederick R. Hyslop, M.D., to Miss Lillian Morton, both of Whitewater, Wis., June 14.

Guthrie McConnell, M.D., to Miss Genevieve Knapp, both of St. Louis, Mo., June 10.

Otto Rangvald Olsen, M.D., to Miss Mary Murray, both of St. Charles, Minn., June 21.

Thomas F. Fitzgerald, M.D., to Miss Nellie McClain, both of Knoxville, Tenn., June 14.

E. Oscar Devlin, M.D., Verdery, S. C., to Miss Mae Donalds of Greenwood, S. C., June 21.

Samuel Ashby Grantham, M.D., to Miss Blanche Burnett, both of Joplin, Mo., June 21.

Henrietta M. Dougherty, M.D., to Mr. Jeremiah Trexler, both of Philadelphia, June 22.

John M. Shaunty, M.D., Springfield, Ky., to Miss Carrie Coleman of Danville, Ky., June 8.

William Ruston Davidson, M.D, to Miss Helen Chick, both of Evansville, Ind., June 22.

Frank Hull, M.D., Maple Ridge, Mich., to Miss Estella Kannell of Turner, Mich., June 1.

Reginald H. Cleary, M.D., to Miss Anna L. Murphy, both of Mount Ephraim, Ohio, June 8.

Calvin William Knowles, M.D., to Miss Cornelia Curtis, both of San Francisco, Cal., June 7.

Frank M. Mahin, M.D., Worden, Kan., to Miss Margaret Benjamin of Newton, Kan., June 13.

Elias G. Roos, M.D., Scranton, Pa., to Miss Edith Hirschman of Binghamton, N. Y., June 14.

J. T. Shelland, M.D., Minneapolis, to Miss Etta G. Carpenter of Sauk Center, Minn., June 14.

William Cloyd Guss, M.D., Hannibal, Mo., to Miss Maie Cecilia Carroll of Barry, Ill., June 7.

W. Edwards Schenck, M.D., Cincinnati, to Miss Julia Maud Homer of New York City, June 18.

Edgar A. Doan, M.D., Mishawaka, Ind., to Miss Anna Adel Baron of South Bend, Ind., June 20.

Harold N. Moyer, M.D., to Mrs. Eleanor E. Myler, both of Chicago, at St. Joseph, Mich., June 8.

John A. Collins, M.D., East St. Louis, Ill., to Miss Mollie B. Marshall of Lebanon, Ill., June 21.

Will L. Hoffman, M.D., Calloway, Neb., to Miss Meliss Morris of Charles City, Iowa, June 7.

J. Dawson Reeder, M.D., Baltimore, to Miss Albina Cook of Green Spring Valley, Md., June 28.

Earl Raymond Snyder, M.D., Troy, Ind., to Miss Floretta Marie Smith of Cannelton, Ind., June 7.

John H. Mayer, M.D., Halifax, Pa., to Miss Mary Irene Lininger of Chambersburg, Pa., June 14.

Ernest D. Mabry, M.D., Llano, Texas, to Mrs. Gussie Landers Black of Marquez, Texas, June 15.

James Thomas Mitchell, M.D., to Miss Myrtle Edith Bailey, both of Middletown, Conn., June 7.

Charles A. Goodrich, M.D., Hartford, Conn., to Miss Margaret Cutter of Brooklyn, N. Y., June 7.

Benjamin H. Southworth, M.D., to Miss Kathryn Nesbitt, both of Schoolcraft, Mich., June 14.

George Hubert Lynch, M.D., Traverse City, Mich., to Miss Una Palmer of Big Rapids, Mich., June 23.

Charles Edward Iliff, M.D., Cincinnati, to Frances Jessie Haag, M.D., of Edwardsville, Ill., June 22.

Loomis W. Fee, M.D., Fort Collins, Colo., to Miss Amy Francelle Avery of Boulder, Colo., June 10.

Arthur E. Gillette, M.D., Cincinnati, to Miss Mary Davenport of Walnut Hills, Cincinnati, June 14.

Joseph William James, M.D., to Miss Charlotte Cecile Shepstone, both of Sacramento, Cal., June 15.

Ralph Clark Apted, M.D., Grand Rapids, Mich., to Miss Susan Joanna Fisher, at Indianapolis, June 15.

George Wightman Kirby, M.D., Millersburg, Ind., to Miss Lottie May Porter of Galesburg, Ill., June 17.

Charles James Fox, M.D., Wethersfield, Conn., to Mrs. Eunice Lord Linsley, at Norwich, Conn., June 22.

Foster G. B. Raynale, M.D., Birmingham, Mich., to Miss Edna M. Brooks of Norwood, Cincinnati, June 7.

Edward Wood Allison, M.D., New York City, to Miss Lydia Winterhalter of Milwaukee, Wis., June 14.

Charles Lester Curtiss, M.D., Manchester, N. H., to Miss Lola Norton Clancy of New Haven, Conn., June 23.

James Manning Kent, M.D., Putnam, Conn., to Miss Florence Seney Cornell of Mamaroneck, N. Y., June 14.

Frank William Green, M.D., Cranbrook, B. C., to Miss Lillian Barbara Staples of Stillwater, Minn., June 8.

Bruce Taylor Best, M.D., Arlington Heights, Ill., to Miss Edith Genevieve Stevens of Jefferson, Wis., June 14.

Zenon A. Laooie, M.D., Manchester, N. H., to Miss Alma Marie Merville Rampon of Fall River, Mass., June 8.

Ralph Raymond Harris, M.D., Cardington, Ohio, to Miss Anna Salemma Thompson of Columbus, Ohio, June 8.

Harrie Van Ness Frink, M.D., Burlington Flats, N. Y., to Miss Flora May Henry of Richfield Springs, N. Y., June 7.

William Nelson MacChesney, M.D., Chicago Heights, Ill., to Miss Harriet A. Darnell of Storm Lake, Iowa, June 21.

Hugh Montgomery Lokey, M.D., Atlanta, Ga., to Miss Rebekah Crawford Hamilton of Birmingham, Ala., June 21.

William N. Gassaway, M.D., Wicomico County, Md., to Miss Martha Brown of Ellicott City, Md., at York, Pa., in April.

Franklin T. Poehler, M.D., Minneapolis, Minn., to Miss Harriet Anna Wildes of Riverside, Cal., at Mankato, Minn., June 21.

John G. O'Meara, M.D., Olneyville, Providence, R. I. to C. Elizabeth McGovern, M.D., of Providence, R. I., at Dorchester, Mass., June 14.

Deaths

Benjamin W. McGalliard, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia 1889, of Trenton, N. J., a member of the American Medical Association and of the Mercer County (N. J.) Medical Society; formerly health inspector and city physician of Trenton; a member of the medical staffs of Mercer and St. Francis hospitals, and physician to the Trenton Children's Home, died June 14 at the Friends' Sanitarium, Philadelphia, after an illness of several months, aged 43. Mercer County Medical Society sent a floral tribute, and at a special meeting June 16 adopted resolutions expressive of regard and regret.

Louis A. Prefontaine, M.D. Department of Medicine of the University of Pennsylvania, 1892, a member of the American Medical Association, Massachusetts Medical Society, Hampden District Medical Society, American Opththalmological Society; and New York Ophthalmological Society; ophthalmologist, otologist and laryngologist to Mercy Hospital, and ophthalmologist to Springfield Hospital, a prominent specialist on diseases of the eye and ear, of Springfield, Mass., died at Springfield Hospital June 19, after an illness of six weeks from Bright's disease complicated with abscess of the muscles of the chest, aged 39.

James Alexander Close, M.B. Toronto (Ont.) University, 1873; Royal College of Physicians and Surgeons, Kingston, Ont., 1873; Royal College of Physicians, Edinburgh, 1880; Royal College of Surgeons, Edinburgh, 1880; a fellow of the Royal Microscopical Society; professor of pathology and bacteriology in the Barnes Medical College, St. Louis; an expert with the revolver, died at his office in St. Louis, June 15, aged 63. The coroner's verdict read: "Death from gunshot wound in the abdomen, sustained in a manner unknown, but supposed accident."

Benjamin Franklin Showerman, M.D. New York University, New York City, 1886, a member of the American Medical Association, New York State Medical Association and Genesee County Medical Society, twice president of the Batavia (N. Y.) Physicians' Club, died at the Batavia Hospital, June 15, 18 days after an operation for cancer of the stomach, aged 41. Resolutions of respect and condolence were adopted at special meetings by the Genessee County Medical Society, Batavia Physicians' Club and the Board of Trade.

Richard M. Fletcher, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1854; surgeon in the Confederate service during the Civil War; president of the Madison County Medical Society for several terms; sometime vice-president of the Medical Association of the State of Alabama and a member of the council for many years; one of the most prominent medical men of northern Alabama, died at his home in Madison, June 17, from senile debility, after a long illness, aged 74.

Thomas B. Steele, M.D. University of Maryland School of Medicine, Baltimore, 1844, assistant surgeon in the Navy until 1861, when, on account of his sympathy with the Confederate cause, he resigned; a veteran of the Mexican war, and a medical officer in Commodore Perry's expedition to Japan in 1853 and 1854, died at his home in Cambridge, Md., June 22, from senile debility, aged 83.

William E. Parkhurst, M.D. Gross Medical College, Denver, 1899, a member of the American Medical Association, president of the Chaves County (N. M.) Medical Society and second vice-president of the New Mexico Territorial Medical Society, an authority on the treatment of tuberculosis, died from that disease at his home in Roswell N. M., after a long illness, aged 44.

Clarence E. Bizzelle, M.D. Medical Department of the University of Nashville and Vanderbilt University, Nashville, Tenn., 1893, of Monroeville, Ala., health officer of Monroe County, died at the Providence Infirmary, Mobile, from pneumonia, following appendicectomy, June 13, after an illness of three weeks aged 32.

Warren Schoonover, Jr., M.D. Bellevue Hospital Medical College, New York City, 1897, died June 12 in New York City. He was a member of the Medical Association of the Greater City of New York, the New York County Medical Society, Kings County Medical Society and the New York Medico-Surgical Society.

George Philip Fenwick, M.D. National Medical College, Washington, D. C, 1859, a member of the Medical Society of the District of Columbia, Washington Gynecological and Obstetrical Society, and Medical Association of the District of Columbia, died at his home in Washington, June 14.

John B. Enright, M.D. University of Louisville Medical Department, 1885; for seven years professor of anatomy, Kentucky School of Medicine, Louisville; ex-alderman of Louisville, died from nephritis at Sts. Mary and Elizabeth Hospital, Louisville, June 20, after a long illness, aged 48.

Thomas B. Gunn, M.D. Missouri Medical College, St. Louis, 1874, of North Yakima, Wash., for many years secretary of the state fair board, died at St. Elizabeth's Hospital, North

Yakima, June 14, a few hours after an operation for the relief of intestinal obstruction, aged 59.

William Henry Lewis, M.D. Harvard University Medical School, Boston; Bellevue Hospital Medical College, New York City, 1865; surgeon in the Army during the Civil War, formerly of Brooklyn N. Y., died suddenly at Santa Barbara, Cal., April 21, from myocarditis, aged 63.

Edwin P. Bigelow, M.D. University of Vermont Medical Department, Burlington, 1897, of Wolcott, Vt., died at the home of his parents in Stowe, Vt., from tuberculosis, June 12, after an illness of more than a year, aged 39.

Thomas Sanderson, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1863, died at his home in Kent, Ind., June 18, from heart disease, after an illness of two years, aged 67.

Martha J. French, M.D. Central College of Physicians and Surgeons of Indianapolis, 1882, of Indianapolis, died at the City Hospital in that city, June 15, from spinal disease, after an illness of three years.

John Morgan Ramsey, M.D. St. Louis College of Physicians and Surgeons, died at his home in Silver Lake, Kan., March 19, from laryngeal and pulmonary tuberculosis, after an illness of one year, aged 41.

James H. Campbell, M.D. Chicago, a practitioner of Rock and Walworth counties, Wis., for 24 years, died from cerebral hemorrhage at his home in Allen Grove, Wis., June 13, aged 73.

Thomas A. Bishop, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1883, of Bonner's Ferry, Idaho, died at St. Luke's Hospital, Spokane, Wash., June 14, aged 46.

William F. Reus, M.D., a pioneer physician of Holland, Mich., formerly of the Netherlands and the United States Navy, died at Gand Haven, Mich., June 14, aged 83.

Charles C. Norman, M.D. Long Island College Hospital, Brooklyn, 1864, died at his home in Hawesville, Ky., June 17, from dropsy, after an illness of several months.

Max Augsburger, M.D. New York City, 1880, died at his home in Brooklyn, June 15, twelve days after having been kicked in the head by a horse, aged 44.

Albert D. Leech, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1885, died at his home in Richmond, Va., June 11, after an illness of several months.

William C. Miller, M.D. Miami Medical College, Cincinnati, 1877, died at his home in Hamilton, Ohio, June 20, after an illness of several months, aged 58.

William C. Barnes, M.D. Medical College of Indiana, Indianapolis, 1874, died suddenly from heart disease, in his office at Marion, Ind., June 20, aged 55.

Charles Frank Fisler, M.D. Jefferson Medical College, Philadelphia, Pa., 1895, died at his home in Clayton, N. J., from typhoid fever, June 21.

William C. Johnson, M.D. Rush Medical College, Chicago, 1869, of Springfield, Ill., died at St. John's Hospital in that city, June 13, aged 66.

Samuel E. Johnson, M.D. (Years of Practice, Pennsylvania), a veteran of the Civil War, died at his home in New Salem, Pa., June 20, aged 61.

David White, M.D. Cincinnati, 1859, a practitioner of Ithaca, N. Y., for more than 40 years, died at his home in that city, June 17, aged 70.

Solomon J. Rhoads, M.D. St. Louis Medical College, 1864, died at his home in Beaver Dam, Ky., June 12, from senile debility.

Milton F. Schell, M.D. College of Physicians and Surgeons of Baltimore, 1887, died at his home in Baltimore, June 17.

Andrew B. Bishop, M.D. Illinois, 1883, of Los Angeles, Cal., died sudenly from heart disease in that city, June 14.

Daniel P. Neihart, M.D. Heidelberg, Germany, 1830, died at his home in Nebraska City, Neb., June 18, aged 83.

Abraham Westervelt Tompkins, M.D. New York City, 1883, died at his home in New York City, June 5.

Death of von Mikulicz.

Johann von Mikulicz-Radecki, M.D., professor of surgery at Breslau since 1890 and one of the leading surgeons of the world, died June 17, aged 55. He was born at Czernowitz, in Austria, and was Billroth's assistant at Vienna, and later professor of surgery at Cracow and Königsberg, before being called to Breslau. With Naunyn, he founded the able *Mitteilungen a. d. Grenzgebieten der Med. u. Chirurgie* in 1896, and also co-operated in the publication of von Bruns' *Beiträge zur klin. Chirurgie*. The list of his publications is a long one, many of them bearing on the perfecting of antisepsis, surgical treatment of diseases of the stomach, artificially increasing resistance of peritoneum, surgery of the pancreas, etc. His name is connected with operations for extirpating the tonsils, for prolapse of the rectum, for amputation at the ankle joint, pylorectomy, etc., and the communications from his clinic have always attracted the attention of surgeons the world around. Among the latest was the announcement in regard to Sauerbruch's pneumatic cabinet for operations inside the thorax. Mikulicz made many friends during his visit in America in 1903 and held clinics in some of the larger cities. He was an honorary member of the American Medical Association and held honorary degrees conferred by the universities of Edinburgh, Glasgow and Pennsylvania, and was an honorary member of many other scientific societies at home and abroad.

Book Notices

A Nurse's Guide for the Operating Room. Second Edition. Enlarged and Revised. By N. Senn, M.D., Ph.D., LL.O., C.M. Cloth. Pp. 204. Price, $1.75 net. Chicago: W. T. Keener & Co.

This book, which has so soon reached a second edition, is a real guide for the nurse for operations. It gives directions in detail regarding preparations for operation, and also contains enough general information to give the nurse a clear idea of what she should know of surgery, of asepsis and antisepsis. Lists are also given of the instruments required for the different major and minor surgical operations.

Addresses and Other Papers, by W. W. Keen, M.D., LL.D., F.R.C.S. Illustrated. Cloth. Pp. 441. Price, $3.75 net. Philadelphia: W. B. Saunders & Co. 1905.

This book contains occasional addresses and papers, delivered and read during the past thirty years. The first paper is "The Early History of Practical Anatomy," being the introductory address at the *Philadelphia School of Anatomy*, 1874. This is an especially valuable paper from the historical point of view and shows considerable research. The illustrations accompanying it are excellent. The address on the "History of the Philadelphia School of Anatomy and Its Relations to Medical Teaching," was delivered at the dissolution of that school, and is of special interest to old Philadelphia medical students. The other papers are: "Our Recent Debts to Vivisection," (1885); "Recent Progress in Surgery," (1889); "The New Era in Medicine and Its Demands on the Profession and the College," (1890); "The Real Rewards of Medicine," (1893); "Medicine as a Career for Educated Men," (1893); "Vivisection and Brain Surgery," (1893); "Medical Education," (1894); "The Advantages of an Academic Training for a Medical Career," (1896); "Literary Methods in Medicine," (1897); "Address on the Unveiling of the Statue to Gross," (1897); "The Address in Surgery of the American Medical Association," (1897); "The Debt of the Public to the Medical Profession," (1899); "Endowment of the Medical Colleges" (being the president's address of the American Medical Association, 1900); "The Ideal Physician," (1900); "Address at the Royal College of Surgeons," (1900); "The Progress of Surgery in the Nineteenth Century," (1901); "The Mission of the Medical College," (1901); "The Duties and Responsibilities of Public Medical Institutions," (1903); "Qualities Essential to Success in Medicine," (1903); "The Need for Increased Endowment for Medical Institutions," (1904); "Age and Youth in Medicine," (1904), and "Surgical Reminiscences of the Civil War," (1905). A glance at the above shows that a wide range of subjects is covered, and those who know the author need not be told that each paper contains important information or good, sound advice or both.

Miscellany

The Evils of Exhaustion of Childhood.—Intemperance and crime make heavy drafts on the exchequer of organized society or government. But what is in most cases the producing microbe of intemperance? Is it not disordered nerves? Crime, again, has come to be known as depending on physical conditions of body and mind. Exhaustion of childhood engenders disorder in young manhood and womanhood, which produces intemperance and all its consequent evils.—Rabbi Hirsch.

Wood Alcohol Has No Place in Pharmacy.—We again protest against the use of such a substance in pharmacy until after recognized authority gives pharmacists the right to use it. No pharmacopeia of any country, no dispensatory of any land, no materia medica extant, sanctions wood alcohol in any place whatever, be it as a solvent, a menstruum, or a final constituent. Until such privilege is given, or until physicians prescribe it, we contend that this poisonous liquid has no place in the pharmacy of medicine.—Lloyd, in *Eclectic Medical Journal.*

Camphor Bromid and Genito-Urinary Disturbances.—Bourneville calls attention to the efficacy of camphor bromid in reducing pain and in regulating function in the genito-urinary organs. He relates in his journal, *Progrès Médical*, for June 3, a number of instances showing that it reduces the tendency to priapism, dysuria, neuralgia of the bladder and similar troubles. He regards it as indicated in inveterate onanism, commencing with two capsules a day of .2 gm. each, not surpassing a daily dose of six capsules. He further recommends it in vaginismus, both in capsules and for local treatment in the form of an ointment.

Laymen and Physicians.—Dr. J. N. McCormack, in an address at Johnstown, Pa., before a general audience, said that on laymen, in the way of proper regard and adequate support, rests in large measure the standing of the medical profession. They can not afford to have a poor physician in the community, because as such he is endangering the health or life of some one. The clergyman, the editor, the lawyer, the banker, owe it to their own families to aid in making a better physician of every practitioner within their reach, or outside of it. They owe support to legislation which will reduce the amount of disease, for nearly all of the acute diseases, declared Dr. McCormack, are preventable by proper measures.

Purulent Ophthalmia in Mexico.—J. Ramos publishes a statistical study of blindness in Mexico in the *Anales de Oftalmologia* for May. The proportion of the blind to the total population is about 10 per cent., Mexico thus occupying the fifth place among nations. Finland, Norway, Hungary and Spain lead with a proportion of from over 22 to over 11 per cent. England follows with 9.85 per cent., France with 9.48, and Germany with 8.79 per cent. The American statistics are not included in his list. Ophthalmia neonatorum is responsible for 28 to 30 per cent. of the cases of blindness in Mexico, and he makes an urgent appeal for the establishment of a central committee to educate the public in regard to the necessity for treatment and the means of prophylaxis of purulent ophthalmia.

Research on Animals in Scientific Institutes.—At the opening of the new Institute of Physiology at Prague, Professor Gad spoke on the subject of research on living animals in scientific institutes. He dwelt on the constant endeavor in such institutions to reconcile the demands of science with those of humanity. "But," he continued, "the demands of science are imperative, and we are here to serve her. It is impossible for us to explain to outsiders the whys and wherefores of our acts. In experimental physiology the devotees of science must know how to avoid everything avoidable and, further, to keep absolutely everything connected with the science away from the gaze and ken of outsiders." The practice of this science does not brutalize; on the contrary, it has the opposite effect. One great difficulty that he has to contend with, he says, is that the attendants grow fond of laboratory animals and spoil those intrusted to their charge. Distorted and false accounts of what goes on in such institutes from what is allowed to leak out among the public are a great and unnecessary danger for independent scientific research. It is much more humane, on the whole, than it is credited with being.

Blue Light as an Anesthetic.—THE JOURNAL mentioned in 1903 that certain operators had found that blue light induced a sedative action amounting to actual anesthesia in some cases. Redard of Geneva has been systematically applying blue light as an anesthetic for some months, and the last *British Medical Journal* relates some of his experiences. All that is necessary is a sheet of blue sateen and a 1-candle power incandescent light enclosed in a blue globe. The sheet of blue sateen is thrown over the patient's head, enclosing also the light, and he is told to gaze fixedly at the light—the interval not more than 15 cm. The cloth is removed after two or three minutes, when the patient will be found in a condition of general anesthesia with dilated pupils. The anesthesia persists long enough for the performance of a short operation. Attempts to reproduce the phenomena with light of any other color than blue were always failures. Other physicians add confirmatory reports. Red light stimulates and excites to the point of irritation, while yellow light has a depressing action. Blue light is calming and produces a feeling of general well-being. Kaiser and Minin ascribe actual therapeutic value to it, and L. E. Schmidt in this country has been advocating it for cutaneous affections. He published a report on it in THE JOURNAL for 1904, xlii, page 590.

Leprosy.—The name of Dr. Juan Carrasquilla of Bogota has been connected with the serum treatment of leprosy for several years. His reputation has attracted such crowds of lepers to Colombia that the government has had difficulty in dealing with this influx of alien lepers. In a communication to be presented to the Third Latin-American Congress, to be held at Rio this year, he proclaims that his experience has convinced him more and more that leprosy is not contagious, like smallpox, etc., but that it is infectious, and that the infection is transmitted by vermin. The initial manifestation is a pustule, like the chancre of syphilis and the bubo of plague, and the discovery of this pustule enables an early diagnosis. Leprosy is not transmitted by secretions nor by air, water or direct contact, but requires the intermediation of vermin. Enforced isolation of lepers is, therefore, unnecessary, and is a cruel and inhumane relic of barbarism. Lepers should be received and treated in hospitals, and they should be induced to enter the hospitals by knowledge of the better care they receive there. Cleanliness of body and habitation and, above all, protection against vermin is the proper prophylaxis. Children should be trained in these ideas, and the public generally should be taught that this way lies health for self and friends. His pamphlet on the subject is published by Hernando Santos, Bogota.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

NORMAL SALT SOLUTION.

WASHINGTON, D. C., June 8, 1905.

To the Editor:—In THE JOURNAL, June 3, page 1794, you inform a correspondent that a normal salt solution is a 0.6 per cent. solution of sodium chlorid in water. I trust that I may be permitted to suggest that while this use of the term "normal" as applied to a salt solution of the strength named is very prevalent in the medical profession, yet such use is in decided disagreement with the significance of the term normal as applied to solutions in general and is contrary to the Pharmacopeia. The proper designation for this solution is "decinormal." The scheme of normal solutions is a system in use in analytical chemistry for certain purposes of utility and uniformity. A normal solution is defined by Billings as "one containing in one thousand cubic centimeters an amount of the active constituent just sufficient to combine with or to replace one gram of hydrogen." For monobasic aids and their salts (such as sodium chlorid) a normal solution is one in which the number of grams in the liter is equal to the molecular weight of the reagent. Thus a normal solution of potassium nitrate, the molecular weight of which is 100.93, is one containing 100.93 grams of KNO_3 in the liter; of sodium hydroxid (molecular weight 39.96), one containing 39.96 grams per liter; of hydrochloric acid (molecular weight 36.37), one containing 36.37 grams of HCl in the liter. Such is the system of normal solutions as universally used by chemists. As the molecular weight of sodium chlorid is 58.27, a normal solution of NaCl is one containing 58.37 grams in the liter. A solution of one-tenth this strength, containing 5.837 grams per liter, is a decinormal solution, and this designation is specifically applied to a solution of this strength in the U. S. Pharmacopeia (1890, page 498). A salt solution of 0.6 per cent. strength is practically a decinormal solution and should be so styled: to term it a "normal" solution, even though that usage is general among medical men, is solecistic and erroneous. The matter is perhaps not of practical importance, though it might be if a surgeon, calling on a professional chemist for a normal salt solution, should receive one of 6 per cent. strength and use it with evil results—in which case the chemist would not be in the least to blame. In the interest of exactness and uniformity of nomenclature, it would seem that the correct designation should be used. The application of the term "physiologic" to a 0.6 per cent. NaCl solution is also open to exception, as it is now becoming generally understood that a solution of this strength is not isotonic with human blood serum, and is hence not "physiologic" in this sense. A 0.9 per cent. solution is more nearly isotonic and "physiologic," and could be used in unlimited quantities without injuring the blood cells, which is not the case *with a 0.6 per cent. solution.* J. B. Nichols.

Answer.—Among physicians a .6 to .75 per cent. solution of sodium chlorid in sterile water is generally known and spoken of as a physiologic or normal salt solution. The term "physiologic" is probably preferable to "normal," as there is less likelihood of the pharmacist confusing it with the normal solution of chemistry mentioned by our correspondent. Physiologic salt solution is the term generally employed abroad in designating this 0.6 per cent. salt solution.

NEW TECHNIC FOR CIRCUMCISION.

Chicago, June 21, 1905.

To the Editor:—In The Journal, June 17, 1905, page 1949, Dr. Gardner asks whether the operation of circumcision as he describes it has ever been advised before. You state that the method is not described in any text-books. I have never seen the operation described in any work on surgery, but I evolved a technic similar to the one described, three or four years ago, and was just about to publish it when I saw an article in *Medicine,* illustrating exactly the same procedure. I have practiced this method of circumcision for several years, and have taught it to my students at the Chicago Policlinic. It is not applicable in children nor in adults where there is phimosis, but in cases in which the foreskin can easily be stripped beyond the glans without constriction this operation is superior to the older ones, for the following reasons:

1. Incision is at base of penis and the bandage can be more readily retained and is less easily soiled.
2. No superficial veins are cut and there is no edema to retard healing; also fewer painful erections.
3. The scar is practically invisible. William Hessert, M.D.

EXPULSION OF PLACENTA BEFORE BIRTH OF CHILD.

Albert, W. Va., June 6, 1905.

To the Editor:—Are cases of complete expulsion of the placenta before the birth of the child of common occurrence? If not of common occurrence, where can I find histories of such cases?

A. P. Butt, M.D.

Answer.—Expulsion of the placenta before the birth of the child in cases of placenta prævia is not extremely rare. Over fifty years ago Simpson collected 141 cases. In twin pregnancy, expulsion of the placenta of the first child sometimes occurs before the birth of the second. Prolapse of and the expulsion of a normally seated placenta before the birth of the child is very rare. A few cases of this kind have been reported since the time of Smellie. These have been collected and critically examined by Kayser in *Archiv für Gynecologie,* Volume 70.

BRITISH DEGREE IN CANADA.

Inhambane, East Africa, May 26, 1905.

To the Editor:—Is there a medical college in Canada that has authority to confer the L.R.C.P. and S. degree (Licentiate Royal College of Physicians and Surgeons) with recognition for it in England, on its graduates? If so, which college is it?

W. A. Backenstoe.

Answer.—No medical college in Canada can confer the licentiate degrees of the British colleges.

State Boards of Registration

COMING EXAMINATIONS.

Board of Medical Examiners, Central District, I. T., South McAlester, I. T., July 3. Secretary, B. W. Caldwell, Hugo.

Board of Medical Examiners of Arizona, Phoenix, Ariz., July 3-4. Secretary, A. Martin, Phoenix.

Utah State Medical Examiners, Salt Lake City, Utah, July 3-4. Secretary, R. W. Fisher, Salt Lake City.

North Dakota State Medical Examining Board, Grand Forks, July 5. Secretary, H. M. Wheeler, Grand Forks.

State Medical Examining Board of Washington, Seattle, Wash., July 5. Secretary, C. W. Sharples, Seattle.

State Medical Examining Boards of the Regents, State House, Concord, N. H., July 7-8. Regent, H. C. Morrison, Concord.

State Medical Board of the Arkansas Medical Society, Little Rock, July 11. Secretary, J. P. Runyan, Little Rock.

Rhode Island State Board of Health, State House at Providence, commencing at 5 a. m., July 11. Secretary, G. T. Swarts, State House, Providence.

Wisconsin Board of Medical Examiners, Park Hotel, Madison, Wis., July 11. Secretary, F. A. Forsbeck, Milwaukee.

State of Connecticut Medical Examining Board, City Hall, New Haven, Conn., July 11-12. Secretary, C. A. Tuttle, New Haven.

Maine Board of Registration of Medicine, State House. Augusta, Maine, July 11-12. Secretary, Wm. J. Maybury, Saco.

Board of Registration in Medicine, State House, Boston, Mass. July 11-12. Secretary, E. B. Harvey, Boston.

Vermont State Board of Medical Registration, Y. M. C. A. Hall, Burlington, Vt., July 11-12-13. Secretary, W. Scott May, Underhill.

Kansas State Board of Medical Registration and Examiners, State House, Topeka, Kan., July 12-13. Secretary, G. F. Johnston, Lakin.

South Dakota Board of Medical Examiners, Sioux Falls, S. Dak., July 12-13. Secretary, H. E. McNutt, Aberdeen.

Board of Medical Supervisors, Washington, D. C., July 13. Secretary, Wm. C. Woodward, Health Department, Washington.

California State Board of Medical Examiners, San Francisco and Los Angeles, Cal., July 19. Secretary, C. L. Tisdale, San Francisco.

State Board of Health of West Virginia, Charleston, W. Va., July 18-20. Secretary, H. A. Barbee, Point Pleasant.

State Board of Health of Illinois, the Great Northern Hotel, Chicago, July 19-21. Secretary, J. A. Eagan, Springfield.

Illinois May Report.—Dr. J. A. Egan, secretary of the State Board of Health of Illinois, reports the written examination held at East St. Louis, May 10-12, 1905. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of persons examined was 124, of whom 119 passed and 5 failed. The following colleges were represented :

PASSED.

College.	Year Grad.	Per Cent
American Med. Coll., St. Louis	(1905)	82
Baltimore Med. Coll	(1901)	85
Creighton Med. Coll., Omaha	(1902)	81
Eclectic Med. Inst., Cincinnati	(1905)	81
Homeopathic Med. Coll., St. Louis	(1905)	81, 81
Johns Hopkins University	(1902)	88

Barnes Med. Coll., St. Louis (1904) 84; (1905). The grade of 78 was reached by one; 79, by four; 80, by one; 81, by two; 82, by one; 83, by two; 84, by one; 85, by four; 88 by one.

College of P. & S., St. Louis (1905). The grades of 75, 78, 79 and 80 were reached by one each; 81, by two; 82, by four; 83, by four; 84, by four; 85, by two; 86, 87 and 88, by one each.

Marion-Sims Beaumont Med. Coll. (1904) 78, 79; (1905). The grades of 75 and 76 were reached by one each; 78, by three; 79, by two; 80, by four; 81, by seven; 82, by two; 83, by six; 84, by four; 85 by three; 86, by two; 87, by one; 88, by one; 89, by two; 90, by two; 91, by two.

Washington University, St. Louis (1903) 83; (1905). The grades of 77, 80 and 82 were reached by one each; 83, by four; 84, by four; 85, by eight; 86, by four; 90, by one; 91, by one.

FAILED.

College.	Year Grad.	Per Cent
Barnes Med. Coll., St. Louis	(1905)	74
College of P. & S., St. Louis	(1904) 55; (*1905)	73
Marion-Sims Beaumont	(1905)	74, 74

* Second examination.

The general average attained by all representatives of Barnes Medical College was passed was 83; of College of Physicians and Surgeons, St. Louis, 82.6; of Marion-Sims Beaumont 82.6; of Washington University, 84.4.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers U. S. Army, week ending June 24, 1905:

Ebert, Rudolph G., surgeon, Woodruff, Chas. E., surgeon, and Carroll, James, asst.-surgeon, detailed to represent the Medical Department of the Army, at the annual meeting of the American Medical Association at Portland, Ore., July 11 to 14, 1905.

Patterson, Robert U., asst.-surgeon, assigned to duty with Co. B, Hospital Corps, Presidio of San Francisco, Cal.

Bradley, A. E., surgeon, assigned to duty at Fort Sheridan, Ill.

Snyder, Henry D., surgeon, granted three months' leave of absence.

Richard, Charles, surgeon, assigned to duty at Fort Jay, N. Y.

Ruffner, E. L., asst.-surgeon, assigned to duty at Columbus Barracks, Ohio.

Whitmore, E. R., asst.-surgeon, assigned to duty at Fort Jay, N. Y.

Boyer, Perry L., asst.-surgeon, assigned to duty at Fort Sam Houston, Texas.

Phalen, James M., assigned to duty at Fort Logan H. Roots, Arkansas.

O'Connor, R. P., asst.-surgeon, assigned to duty at Army General Hospital, Presidio of San Francisco, Cal.

Vose, Wm. E., asst.-surgeon, relieved from duty at Fort Logan H. Roots, Ark., and ordered to Fort Sheridan, Ill., for duty.

Richard, Charles, surgeon, granted thirty days' leave of absence.

Carter, Edward C., surgeon, granted ten days' leave of absence.

Bradley, A. E., surgeon, granted leave of absence for one month and fifteen days.

Wilson, Wm. H., asst.-surgeon, assigned to duty as attending surgeon and examiner of recruits, and as medical superintendent of the Army Transport Service, New York City, N. Y.

Godfrey, G. C. M., asst.-surgeon, relieved from duty as attending surgeon and examiner of recruits, and as medical superintendent, Army Transport Service, New York City, N. Y., and will retain station in that city until further orders.

Pierson, Robert H., asst.-surgeon, relieved from duty at Army General Hospital, Fort Bayard, N. M., and ordered to Fort St. Michael, Alaska.

Smart, Wm. M., asst.-surgeon, relieved from duty at Fort St. Michael, Alaska, and ordered to proceed to Seattle, Washington, and report to the Military Secretary of the Army for further orders.

Howard, D. C., asst.-surgeon, granted thirty days' leave of absence about July 1, 1905.

Kiersted, H. S., asst-surgeon, ordered to report to Lieut.Col. Geo. H. Torney, deputy surgeon general, president examining board, Army General Hospital, Presidio of San Francisco, Cal., Aug. 1, 1905, for examination to determine his fitness for advancement to rank of captain.

Phillips, John L., surgeon, ordered to proceed from Fort Jay, N. Y., to this city and report in person to the chairman of the Isthmian Canal Commission for duty with the commission on the Isthmus of Panama.

Le Wald, Leon T., asst.-surgeon, left San Francisco, Cal., on thirty days' leave of absence.

Peed, George P., asst-surgeon, granted thirty days' leave of absence.

Harvey, Philip F., asst-surgeon-general, left C. S. O., Department of the Lakes, Chicago, Ill., on thirty days' leave of absence.

Hartsock, F. M., asst.-surgeon, granted thirty days' leave of absence.

Roberts, Ernest E., contract surgeon, arrived at San Francisco, Cal., on S. S. *China*, for three months' leave of absence, from the Philippines Division.

Gardner, Fletcher, contract surgeon, arrived at San Francisco, Cal., on the transport *Thomas* for three months' leave of absence from the Philippines Division.

Bowman, Madison H., contract surgeon, arrived at Seattle, Wash., on transport *Dix* for three months' leave of absence from the Philippines division.

Hicks, John R., contract surgeon, arrived at Seattle, Wash., on transport *Dix* for annulment of contract.

Suggs, Frank, contract surgeon, arrived at San Francisco, Cal., from the Philippines Division, on the transport *Thomas* for treatment.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending June 24, 1905.

Chapman, R. B., asst-surgeon, orders of April 19, 1905, modified; ordered to Naval Station, Guam, L. I.

Hart, G. C., acting asst.-surgeon, detached from duty with the marine detachment at Dry Tortugas, Fla., and ordered home to wait orders.

DeLaney, C. H., P. A. surgeon, detached from the *Marblehead* and ordered home to wait orders.

Hoen, W. S., asst.-surgeon, detached from the *Zafiro* and ordered to the *Marblehead*.

Murphy, J. F., asst.-surgeon, detached from the *Hancock*, June 23, and ordered to the Naval Recruiting Station, Buffalo, N. Y., June 23.

Nelson, H. T., asst.-Surgeon, detached from the Naval Hospital, Washington, D. C., June 27, and ordered to the Naval Proving Grounds, Indian Head, Md., June 28.

Mears, J. B., acting asst.-surgeon, detached from the Naval Recruiting Station, Buffalo, N. Y., June 24, and ordered to Washington, D. C., for examination for appointment as asst.-surgeon, and then wait orders.

Shipp, E. M., surgeon, detached from the Naval Medical School, Washington, D. C., July 27, and ordered to duty at the Naval Hospital, New York, N. Y.

Bell, W. L., P. A. surgeon, having been examined by a retiring board, and found incapacitated for active service on account of disability incident thereto, is retired from active service under the provisions of Section 1,453 Revised Statutes.

Iden, J. H., P. A. surgeon, detached from the Naval Medical School Washington, D. C., June 26, and ordered home to wait orders.

Campbell, R. A., acting asst.-surgeon detached from duty with the second torpedo flotilla on board the *Worden* and ordered to Utica, N. Y., July 1, for duty with naval recruiting party No. 5.

Judd, H. W., acting asst.-surgeon, detached from the Naval Proving Ground, Indian Head, Md., June 28, and ordered to Huntington, W. V., July 1, for duty with naval recruiting party No. 4.

Spratling, L. W., surgeon, detached from duty with the Isthmian Canal Commission and ordered home to wait orders.

Holloway, J. H., asst.-surgeon, detached from the *Baltimore* and ordered home.

Traynor, J. P., asst.-surgeon, detached from the *Rainbow*, and ordered home.

Bachmann, B. A., asst.-surgeon, detached from the *Villalobos*, June 23, and ordered home.

Dykes, J. B., asst.-surgeon, detached from the Naval Station, Cavite, P. I., June 23, and ordered to the *Baltimore*.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine Hospital Service for the seven days ending June 21, 1905.

Geddings, H. D., assistant surgeon general, to proceed to Baltimore for special temporary duty.

Eager, J. M., assistant surgeon general, granted leave of absence for nine days from June 30.

Peckham, C. T., surgeon, granted leave of absence for twenty days, from July 10.

Korn, W. A., passed assistant surgeon, granted leave of absence for one day, June 27.

Cleaves, F. H., acting assistant surgeon, granted leave of absence for 23 days, from July 10.

Drew, A. D., acting assistant surgeon, granted leave of absence for four days, under paragraph 210 of the regulations.

Hammond, A. P., acting assistant surgeon, granted leave of absence for 14 days, from June 17.

Keatley, H. W., acting assistant surgeon, granted leave of absence for one day, June 22.

McCormac, J. T., acting assistant surgeon, granted leave of absence for 15 days, from July 9.

Richardson, N. D., acting assistant surgeon, granted leave of absence for five days, from June 12, 1905, under paragraph 210 of the regulations.

Walkley, W. S., acting assistant surgeon, granted leave of absence for nine days, from June 27.

Achenbach, J., pharmacist, granted leave of absence for thirty days, from May 15, on account of sickness.

Gibson, F. L., pharmacist, granted leave of absence for twelve days, from June 18.

Holt, E. M., pharmacist, granted leave of absence for twenty-nine days, from July 3.

BOARD CONVENED.

Board to meet at the Marine-Hospital, Boston, for the physical examination of an officer of the Revenue Cutter Service, June 21, 1905. Detail for the board: Surgeon R. M. Woodward, chairman; Assistant Surgeon W. C. Rucker, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the period from June 16 to June 24, 1905:

SMALLPOX—UNITED STATES.

California: Los Angeles, June 3-10, 1 case.

Florida: Jacksonville, June 10-17, 1 case.

Illinois: Chicago, June 10-17, 15 cases; Danville, June 8-15, 3 cases.

Indiana: South Bend, June 10-17, 7 cases, 1 death.

Louisiana, New Orleans, June 10-17, 2 cases.

Massachusetts: Lowell, June 10-17, 1 case.

Michigan: Grand Rapids, June 18-25, 29 cases, 5 deaths.

Missouri: St. Louis, June 10-17, 4 cases, 1 death.

Nebraska: South Omaha, June 3-10, 6 cases.

Ohio: Toledo, June 3-10, 9 cases.

Pennsylvania: York, June 10-17, 3 cases.

Tennessee: Memphis, June 10-17, 1 case.

Wisconsin: LaCrosse, June 10-17, 4 cases; Milwaukee, June 3-10, 3 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, May 6-13, 3 cases.

Brazil: Bahia, April 27-May 13, 16 cases, 1 death. Rio de Janeiro, May 14-28, 15 cases, 6 deaths.

Ceylon: Colombo, May 6-13, 1 case, 1 death.

Denmark: Copenhagen, May 20-June 3, 2 cases.

Great Britain: Bristol, May 27-June 3, 1 case; London, 1 case; New Castle-on-Tyne, 2 cases; South Shields, 2 cases.

India: Bombay, May 8-16, 34 deaths; Calcutta, May 6-13, 5 deaths; Karachi, May 7-14, 1 case, 1 death.

Italy: Catania, May 27-June 8, 52 cases, 10 deaths; Lecce Province, May 18-25, 9 cases; Palermo, May 20-27, 2 cases, 2 deaths.

Mexico: City of Mexico, April 8-June 3, 65 cases, 35 deaths.

Russia: Moscow, May 13-27, 45 cases, 12 deaths; Odessa, May 6-27, 45 cases, 8 deaths; St. Petersburg, May 13-27, 19 cases, 1 death.

West Indies: Grenada, May 23-28, 2 cases.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, May 14-28, 74 cases, 24 deaths.

Ecuador: Guayaquil, May 16-23, 2 deaths.

Honduras: Puerto Cortez, May 25-June 6, 8 cases, 4 deaths.

Mexico: Coatzacoalcos, May 4-10, 3 cases. Tierra Blanca, June 4-10, 2 cases, 1 death.

Panama: Colon, Jan. 23-June 11, 27 cases, 7 deaths; Panama, Jan. 1-June 10, 78 cases, 25 deaths.

CHOLERA—FOREIGN.

India: Calcutta, May 6-13, 31 deaths.

PLAGUE—INSULAR.

Hawaii: Waipahu, June 20, 1 death.

Philippine Islands: Cebu, April 29-May 2, 2 cases, 2 deaths; Manila, April 29-May 6, 2 cases, 1 death.

PLAGUE—FOREIGN.

Africa: East London, May 6-13, 8 cases, 4 deaths; Mousa, 1 case, 1 death.

Brazil: Sao Paulo, April 30-May 7, 1 death.

India: Bombay, May 9-16, 659 deaths; Calcutta, May 6-13, 324 deaths; Karachi, May 7-14, 158 cases, 142 deaths.

Society Proceedings

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Portland, Ore., *July 11-14, 1905.*

American Surgical Association, San Francisco, Cal., July 5-7.
South Dakota State Medical Association, Deadwood, July 5-7.
Amer. Assn. of Life Ins. Exam. Surgeons, Portland, Ore., July 10.
American Medical Editors' Assn., Portland, Ore., July 10.
American Urological Association, Portland, Ore., July 12-13.

NEW YORK NEUROLOGICAL SOCIETY.

Regular Meeting, held May 9, 1905.

The President, DR. JOSEPH FRAENKEL, in the Chair.

Acute Psychoses During Tabes.

DR. GEORGE H. KIRBY presented a woman, 50 years old, whose family history was negative. Her early development had been normal. She was married at 18 and had nine children. The last child was born fifteen years ago and died at eighteen months. It was delicate from birth; its hair fell out, and it had some eye trouble which the doctor told her had been inherited. She questioned her husband at the time about a venereal disease, but he denied infection. She believed, however, that he had been treated shortly before this for some such disease. She had never seen any signs of disease on his body. She herself has had no sore, so far as she knew. She never became pregnant again.

About eight years later, i. e., in 1899, she began to have headaches and shooting pains in her legs. In January, 1903, she suddenly became exhilarated and lively. She spent money foolishly and began to drink. During her periods of excitement she had several fainting spells, but no convulsions. The knee jerks were absent; Argyll Robertson pupil; some Romberg swaying, and greatly diminished pain sensibility below the knees. There was fine, regular tremor of the tongue and hands; no speech defect. She was quiet, pleasant in manner, perfectly oriented in time and place; she answered questions freely, was connected in speech, but tremendously expansive. There was no memory defect for either recent or remote events, but in her statements of certain remote dates there were discrepancies which she only partially realized and was not able to fully correct. Her attention was good; she retained names and numbers well. After she had been in the hospital two and a half months, she rather suddenly became clear mentally, gained full insight into her previously expressed grandiose ideas, and her memory was without defect. The physical signs of tabes remained unchanged. She left the hospital on June 27, 1903.

A few months after her return home she began to suffer from pains in the back and a sensation of constriction about the waist. She had difficulty in walking, and her legs would suddenly give way; or, if she bent over, she was apt to fall on her face. Her tabetic symptoms had been progressive, with no return of the mental trouble. She was now helpless so far as locomotion went. The joints were relaxed. Deep sensibility was lost in both legs. Three months ago she had an enormously swollen hip, which appeared rather suddenly and without pain; this had recently disappeared. The patient showed a wonderful amount of energy and perseverance. By crawling about on the floor and having things put where she could get them, she did her own housework, cooking, washing, etc. Her memory remained good, and she retained a full insight of her previous mental attack.

Progressive Lesion of the Root of the Fifth Nerve, Producing Motor, Sensory and Trophic Symptoms.

Dr. J. Ramsay Hunt exhibited a man, 59 years old, who had been a submarine diver for forty years. At the age of 25 he had a chancre of doubtful nature. His present disease began about sixteen months ago, and consisted of disagreeable drawing sensations and paresthesia on the left side of the face, in the distribution of the left fifth nerve. With this there was an associated weakness of mastication on the same side, and a tendency to a constantly chewing motion, which still persisted. Since the onset up to the present time, the affection had been gradually progressive. After a descent 45 feet below the surface, he noticed that he could not see with the left eye, and an oculist who examined the interior of the eye said that there had been a hemorrhage. On attempting to use the telephone, he noticed that he could not hear in the left ear. There was not, nor had there been any tinnitus aurium. Within two weeks the sight returned to the left eye and the hearing was restored to the left ear.

The symptoms in the region of the left fifth nerve continued to increase, and consisted of paresthesia and weakness in the distribution of the left trifacial nerve, associated with an incomplete anesthesia to touch, pain and temperature in the same area, and including the mucous membrane of the eye, nose, tongue and mouth on the affected side. There was an absence of the conjunctival and corneal reflex on the left side. He had a drawing sensation in the left face and gums, a feeling of irritation in the left eye, and the left nostril did not feel free. He had at no time had pains in the left face. The sense of taste was diminished on the left side, and the sense of smell, although not very acute on either side, was also diminished on the left. The left face was smaller than the right, and this did not seem to be entirely explained by the wasting of the temporal and masseters, which were atrophied on the left side. A large section of the frontalis muscle was wasted, and did not respond either to voluntary innervation or to electricity. The following oculopupillary symptom was present on the left side, i. e., slight ptosis, enophthalmus, and moderate dilatation of the pupil. Attempts to test the sweat secretion of the face by the administration of pilocarpin, and the tear secretion by irritation of the conjunctiva were negative.

The other cranial nerves, the gross motor power, the gait and station, the tendon, skin and pupillary reflexes were all negative. He had occasional vertiginous seizures and suffered somewhat from insomnia; but no headaches. The motor, sensory and trophic symptoms, without root pains, suggested a lesion of the nuclei of origin of the left fifth nerve. The nystagmus also indicate pressure in the pons. The retinal hemorrhages must be regarded as an accidental complication. The temporary deafness, without tinnitus and with complete restoration of hearing, was more difficult of interpretation. Symptoms of hysteria were wanting. The nature of the process might only be conjectured; it was however, progressive and unassociated with general symptoms of tumor.

Dr. Charles L. Dana said he had an opportunity to examine this case. There seemed to be a progressive facial hemiatrophy, with progressive loss of function of the fifth nerve. There was no pain nor symptom of tumor. The condition could best be explained by some morbid or degenerative condition involving the nuclei of the fifth nerve, possibly a gliosis or a parasyphilitic lesion. The case might eventually turn out to be an aberrant form of tabes. Dr. Dana said he had seen some cases of tabes with these peculiar symptoms, but never with a progressive facial hemiatrophy developing in this artificial way.

Case of Lead Poisoning, Probably Complicated by General Paralysis.

Dr. C. B. Dunlap showed a man, 47 years old, a painter, who was admitted to one of the state hospitals and died there seven months later. He had had painter's colic two years before admission, and had not been considered well since that time, though he had worked at odd jobs up to a week before entrance, at which time he left his boarding-house, was found wandering in the street in an aimless, bewildered way. At the hospital he appeared to be much exhausted, dejected and apathetic. He did not know where he was, or the nature of the place or the date, and gave the date of his own birth incorrectly. He claimed to hear a voice that he could not place.

Examination showed sluggish reaction of the pupils to light and accommodation. The tongue was tremulous. There was partial paralysis of the left arm and hand, and a much-weakened grip on that side. There was apparent wasting of the muscles of the thenar and hypothenar group. This wasting was also present on the right side, but less marked. The elbow, wrist and thumb reflexes were present on both sides. There was slightly diminished pain sensation on the ulnar side of the left arm. There was apparent wasting of the shoulder muscles, more marked on the left side; also of the back and gluteal muscles. The anterior tibial muscles showed some weakening, more marked on the left side. The knee jerks were exaggerated; the plantar reflexes diminished. No clonus; no Babinski; no sensory disturbances.

In November he complained of vague pains in his legs. The following month he became irritable and quarrelsome, and subsequently his gait became unsteady. The latter part of January he began to show marked inco-ordination, with great exaggeration of the patellar reflexes. The muscles of the legs, hands and tongue showed a marked tremor, and there was a peculiar trembling speech intonation, with failure to properly pronounce many words. By the middle of February the speech was worse, and the hands so ataxic and tremulous that he could not feed himself. Mentally, he was depressed and worried about himself. Four days before death the inco-ordination was jerky, almost spastic at times. He was almost hypersensitive to pain stimuli. Wasting of the interossei of the hands and feet and of the muscles generally was noted. All the muscles responded to the galvanic current, but the response was slight in the gastrocnemii and interossei. The day preceding his death the twitching of the muscle-groups was still more marked.

Autopsy: There was hypostatic congestion of the lungs; the spleen was soft and somewhat enlarged. The pia arachnoid was thickened and water-logged. The brain showed considerable thickness and toughness of the pia of the convexity and base. The basal vessels were fairly thin; there was no atheroma. There were no gross lesions, and on section, the appearance was normal, with nothing to explain the partial paralysis of the left arm and hand. There were no granulations in the fourth ventricle. Microscopically, sections taken from the paracentral and frontal cortex of the formalin-hardened brain showed the typical changes found in general paralysis, namely, infiltration of the pia with lymphoid and plasma cells, infiltration of the walls of the cortical vessels with the same elements and with pigment and pigment-carrying cells. There was also marked apparent increase in vascularity ot the cortex; also pain neuroglia reaction, seen in the first layer of the cortex in the form of numerous spider cells; disorganization of the cortex layers, and numerous rod cells, such as Nissl and Altheimer, found to be quite constant in general paralysis, and unusual elsewhere. The walls of many of the larger cortex vessels were so packed with cellular elements and so broken up that the different coats were indistinguishable, and the lumen was often hard to find. Marchi stains of the paracentral lobules showed a few myelin-sheaths which were broken up into rows of fat droplets, indicating a myelin decay of moderate degree. In sections of the spinal cord from the cervical thoracic and lumbar regions, a diffuse myelin degeneration was evident in the anterior or posterior roots.

Dr. T. P. Prout referred to three toxic cases resembling that reported by Dr. Dunlap, but none of them came to autopsy. The toxic symptoms that were particularly prominent were decided somnolence and a passive depression. All three of those patients came from a factory where rubber was manufactured, and Prout was inclined to attribute the toxemia to noxious gases inhaled by the men.

Case of Brain Neoplasm.

Dr. William B. Noyes presented an Italian boy, 11 years old, whose family and previous personal history was negative. He was one of eight children, three of whom had died at birth. There was no history of syphilis or tuberculosis. Two months ago he developed some affection of the eyelids resembling ptosis; this was noticed first on the right side, and disappeared after a month on the application of a leech behind the ear. The left eye became similarly affected a month after the appearance of the condition on the right side. He has complained of frequent headache, located in the region of the right ear and right frontal region.

Examination showed the following condition: A left facial paralysis of a peculiar type, with continuous spasm and twitching of the orbicularis palpebrarum and blepharospasm. Reaction to faradism absent. The tongue showed choreiform movements or a fine fibrillary twitching. There was double choked disc; no paralysis. The temperature usually ranged between 99 in the morning and 100 or 101 F. in the evening. An internal strabismus subsequently developed, due apparently to overactivity of the internal rectus rather than to paralysis of the external rectus. The conjunctiva of the left eye was anesthetic, but there did not seem to be any other fifth nerve symptom. The left knee jerk became exaggerated; there was some ataxia on standing with the eyes closed. The headaches recurred frequently, though yielding to ergot. The boy's general health remained good enough to permit him to play in the yard. The case was regarded as one of cerebral neoplasm, located in the pons, or, according to the view of one observer, in the facial center in the cortex. The nature of the neoplasm was doubtful, excepting that the temperature strongly suggested an abscess. The symptoms, however, seemed to be too distinctly limited to make an abscess probable.

Dr. William M. Leszynsky said that one of the interesting peculiarities of the case shown by Dr. Noyes was the left facial spasm, a certain degree of which was sometimes noted after a facial paralysis in older patients. From the history of Dr. Noyes' case the speaker said he would be rather led to infer that the lesion, instead of being an actual neoplasm, was probably a disseminated one, or that the symptoms were due to a certain amount of basilar meningitis. It was hardly necessary to assume the presence of a neoplasm on account of the extensive choked disc, and he doubted whether any ophthalmologist who looked into the eye and found hemorrhages and choked disc could make the diagnosis of a neoplasm in contraindication to a basilar meningitis.

Incomplete Transverse Myelitis from Exposure After Working in Caisson.

Dr. I. Abrahamson's patient, M. G., male; a Russian laborer, came under observation on March 23, 1905. His family history was unimportant. Seven years ago the patient had typhoid fever. He had long been addicted to the excessive use of beer and cigarettes. Denied venereal infection. Up to fourteen months ago he worked for three hours daily in a caisson. For three days previous to the onset of his present illness he had been dissipating and drinking heavily. He entered the exhaust-chamber feeling ill at ease, and remained there twenty minutes; while there he drank some hot coffee, and then went out into the rain without adequate protection,and reached his home soaked and cold. About ten minutes after leaving the exhaust-chamber he began to vomit, and was seized with violent pains in the epigastrium. He felt cold, with chilly sensations and numbness in the legs, especially the left. At the same time there was increasing weakness in the legs, so that within fifteen minutes after going to bed he was completely paralyzed from the umbilicus down. There was also retention of urine and feces, and marked dyspnea and palpitation. After a month or so he slowly began to improve, but he still suffered from constipation and delayed urination. The gait was very spastic, with slight unsteadiness. The lesion in this case was an incomplete transverse myelitis. Etiologically, the case illustrated the importance of alcoholism and exposure as predisposing to caisson myelitis, facts which numerous writers have accentuated.

Syringomyelia.

Dr. Abrahamson exhibited a man, 42 years old, a tailor by occupation. His father died of tuberculosis; his mother of gangrene of the leg. He had five living sisters, who were all well. He suffered from frequent attacks of bronchitis; denied a venereal history; used alcohol and tobacco in moderation. Eight years ago he fell on the ice, striking his back. He did not lose consciousness, but suffered severely from pain in the region of the thorax on both sides. He remained in bed one week, and then returned to work. For two years previous to his injury he had suffered from tingling and cold paresthesia in the left upper extremity, which he attributed to his habit of sleeping on the left side, resting his head on his hand, and thus compressing the left arm. The fall apparently aggravated his symptoms, and subsequently he noticed that his fingers were numb, and that he could not feel objects distinctly with his left hand. With this hand he also failed to distinguish between hot and cold with certainty. The numbness and loss of sensation gradually extended to the left supraspinatus region, the occiput, and more recently to the submaxillary region, the left anterior chest, the left posterior thorax and finally the right shoulder and arm were involved in the area of cold paresthesia. The patient complained of pain in the left interscapular region during the past eight months and of a sense of constriction about the left chest, neck and occiput, as if the entire region was encased in plaster. In the neck he had a choking sensation, interfering with swallowing and speaking, and the left ear seemed to be blocked at times. Eight months ago he noticed that the left upper extremity was weak, with wasting in the thenar region. Recently fibrillary twitchings developed in this arm, with excessive perspiration in the left axilla. There was no rash; no joint changes; no trophic skin changes. There was some delay in urination, and the bowels were costive. There was a diminution of sexual potency. No diplopia; the other special senses were normal. The spinal column was scoliotic, with a convexity to the left in the cervical, and to the right in the dorsal region. In walking, the patient dragged the left leg somewhat; no Romberg. The upper border of sensory disturbances corresponded exactly to the sensory distribution of the first cervical segment on one side only.

Some Forms of Toxic Deliria.

Dr. George H. Kirby reported three cases of toxic deliria. The first of these was due to the excessive and continuous use of phenacetin; the second to the use of chloral taken after alcoholic excesses, and the third to the use of bromids for the relief of insomnia. These cases all had certain symptoms in common. The patients were not clear as to their surroundings; they apprehended readily what was said to them and were able to grasp, more or less, the simple relations which came under their own eyes, but they invariably mistook the situation in which they were placed. They were especially confused over the identity of persons, while time orientation suffered comparatively little. Consciousness regarding their own personality remained intact, and with one exception, the patient's grasp on the remote past was clear. Perhaps the most striking symptom was the tendency to produce spontaneously detailed accounts of extraordinary occurrences, dream-like in character, and mostly of a terrifying and fearful content. Especially noteworthy was the fact that motor agitation and fear reactions might be entirely absent. Improvement in all the cases was gradual, and the belief in the delirious experiences remained some time after the patients were otherwise clear. The condition had to be differentiated from (1) delirium tremens; (2) general paralysis; (3) Korsakoff's psychosis; (4) the great variety of symptom types in the infective-exhaustive group of psychoses.

NEW MEXICO MEDICAL SOCIETY.

Twenty-Fourth Annual Meeting, held at Las Vegas, May 10 and 11, 1905.

The President, Dr. Edward B. Shaw, Las Vegas, in the chair.

Welcome.

Mayor F. E. Olney welcomed the association to Las Vegas, and Dr. John F. Pearce, Albuquerque, responded in behalf of the association.

Memorial Resolutions.

The society passed resolutions regarding the deaths of the following members, who had died during the past year: Drs. Ernest J. Mellish, El Paso, Texas; Charles G. Cruikshank, San Marcial, and Jacob E. Mohr, Las Vegas.

Election of Officers.

Officers for the ensuing year were elected as follows: Dr. Percy G. Cornish, Albuquerque, president; Drs. Thomas B. Hart, Raton; William E. Parkhurst, Roswell, and Bruce E. Lane, Las Cruces, vice-presidents; Dr. Guy H. Fitzgerald, Albuquerque, secretary; Dr. Henry M. Smith, Las Vegas, treasurer; Drs. Enoch W. Tipton, Silver City; George W. Harrison, Albuquerque, and Samuel B. Swope, Deming, councilors.

Society Journal.

It was decided to publish a medical journal as an official organ of the society, and Dr. Guy H. Fitzgerald was elected editor, and Dr. Percy G. Cornish assistant editor, both of Albuquerque.

Entertainment.

At the annual banquet held at the Castenada, Justice W. J. Mills delivered the address of the occasion. The visiting ladies were entertained by the wives of the Las Vegas medical profession at the home of Dr. W. Curtiss Bailey, and luncheon was also served at the Romero Ranch.

RHODE ISLAND MEDICAL SOCIETY.

Ninety-Fourth Annual Meeting, held in Providence, June 1.

The President, Dr. William R. White, Providence, in the chair.

New Officers.

At the meeting of the House of Delegates the following officers were elected: President, Dr. Christopher F. Barker, Newport; vice-presidents, Drs. Charles V. Chapin, Providence, and Frank B. Fuller, Pawtucket; secretary, Dr. Stephen A. Welch, Providence; treasurer, Dr. George S. Mathews, Providence; curator, Dr. William J. McCaw, Providence; auditor, Dr. Edwin B. Harvey, Providence, and delegate to the American Medical Association for 1906-7, Dr. John Champlin, Westerly.

Committees.

The following standing committees were elected: Arrangements, Drs. William B. Cutts, Pearl Williams and Herbert G. Partridge, all of Providence; publication, Drs. George D. Hersey, Clarence M. Godding and Gardner T. Swartz, all of Providence; library, Drs. Horace G. Miller, George D. Hersey, George W. Porter, George L. Collins and Frank L. Day, all of Providence; necrology, Drs. Helen C. Putnam and Edwin B. Harvey, Providence, and Lucius F. C. Garvin, Lonsdale; legislation, Drs. Gardner T. Swartz, William F. Gleason and Walter L. Munro of Providence, the president and the secretary; building, Drs. Horace G. Miller, John W. Mitchell, Robert F. Noyes, Fenner H. Peckhem and Frederick T. Rogers, all of Providence.

Fiske Fund Prize.

Dr. Halsey De Wolf announced that the $250 Fisk Fund prize had been awarded to Dr. W. Louis Chapman, Providence, for his essay entitled "The Complications of Gonorrhea in Both Sexes," this being the second time that this prize has been awarded him.

Presentations.

A portrait of Dr. Lewis Leprellett Miller was given the society by Edward Carrington, through the courtesy of Dr. George L. Collins. A diploma from the Medical School of Brown University, awarded in 1826 to Dr. Joshua Rose of South Kingston, was presented to the society, and Dr. Horace G. Miller, Providence, presented the society with his collection of books on ophthalmology and otology.

Banquet.

At the annual banquet, Dr. Edward E. Pierce acted as anniversary chairman, and addresses were made by President William H. P. Faunce of Brown University, Secretary of State Charles P. Bennett, and Dr. John C. Pegram, Providence.

The next meeting will be held at Newport, September 7.

MASSACHUSETTS MEDICAL SOCIETY.

One Hundred and Twenty-fourth Annual Meeting, held in Boston, June 13-14, 1905.

The President, Dr. Arthur J. Cabot, Boston, in the Chair.

The morning of June 13 was devoted to visits at the various hospitals of Boston and to the antitoxin and vaccine laboratories of the State Board of Health. In the afternoon the society met in two sections at the Boston Medical Library.

Councilors' Meeting.

The Secretary reported the names of 37 fellows who have died during the year and of 171 new members, making a total of about 3,000. The treasurer reported total receipts during the year of $24,729.38, and a balance on hand of $11,199.05, besides some $30.000 permanent invested funds.

Officers Elected.

President, Dr. Arthur T. Cabot, Boston; vice-president, Dr. Frederick H. Thompson, Fitchburg; treasurer, Dr. Edward M. Buckingham, Boston; corresponding secretary Dr. Charles

W. Swan, Brookline; recording secretary, Dr. Francis W. Goss, Roxbury; librarian, Dr. Edwin H. Brigham, Boston.

The next annual meeting will be held in Boston, June, 1906.

Resolutions.

A resolution asking the legislature to require the annual inspection of the eyes and ears of school children was referred to the committee on state and national legislation with full powers.

A resolution was passed approving the recent efforts of the Postmaster-General to check the activities of certain charlatans and quacks by refusing them the use of the facilities of the mails.

SECTION IN MEDICINE.

Dr. George W. Gay, of Newton, Chairman.

Some Interesting Features Connected with the Outbreak of Smallpox in North Adams in 1904.

Dr. **Lyman A. Jones**, North Adams, said that his city has a large population of Canadian cotton operatives who are careless about vaccination. The first case occurred July 8 and was promptly quarantined. The second case, August 2, was soon followed by a large number of others. Subsequently, however, these were proven to have originated in three other unreported cases; two imported from Canada, one so mild as to be unrecognized. Spread of the disease was also probably aided by a physician treating undetected cases. The coincidence of epidemics of measles and chicken pox made diagnosis more difficult, as did the thorough vaccination of a family who had mild varioloid and did not seek any medical aid, but transmitted variola to others. The local Board of Health succeeded in checking the epidemic, the last case occurring October 14. They attribute their success to the choice of a house in a new unoccupied block as an isolation hospital, and the use of a second and later a third house in the same block for purposes of detention of all suspects. This made possible the thorough cleaning and fumigation of all infected spots; and rigid enforcement of vaccination.

DISCUSSION.

Dr. **John H. McCollom**, superintendent of the South Department of the Boston City Hospital, emphasized the importance of every municipality having a smallpox hospital ready for use. A house of detention is a necessity for cases impossible of diagnosis. Chickenpox, measles, syphilis and K. I. rash must all be carefully excluded. There is no reason to believe that smallpox is an air-borne disease, but often, as was here demonstrated, there are several foci of infection.

Ocular Vertigo of Interest to the General Practitioner.

Dr. **Benjamin P. Croft**, Greenfield, said vertigo may result from (1) paralysis of the ocular muscles; (2) ocular muscle imbalance; (3) eyestrain. He cited cases to show how they are often promptly relieved and cured by the removal of the ocular defect, after having been treated unsuccessfully for weeks or months.

Value of Hydrochloric Acid in Diseases of the Stomach.

Dr. **Richard F. Chase**, Brookline, stated that this acid is used either as a (a) stomachic; (b) to supply a deficiency or to prevent fermentation; (c) with pepsin to attain digestion, or (d) to stimulate the gastric glands or the pancreatic activities. In order to make up for its absence, as much as 1 oz. of a 10 per cent. solution daily would be needed, which is impracticable. For the same reason it is useless to give it with pepsin. Instead of stimulating the secretion of acid, it diminishes secretion. Its use is therefore limited to the alleviation of symptoms of indigestion of a functional or nervous origin.

Medical Treatment of Hyperacidity and Gastric Ulcer.

Dr. **Frederick C. Shattuck**, Boston, said the disease is readily recognized. Not enough emphasis is placed on "Pyloric Spasm." In mild cases an alkali soda or magnesia is curative. Diet should consist largely of milk and eggs, without salt or condiments, and with only limited amounts of meat or fish. The severer cases call for the same diet and large doses of bismuth. Ulcer is treated by resting the stomach, morphia, and rectal feeding. Gradually begin to give small quantities of milk and lime water until meat can be given safely. The only indications for operation are perforation or a cicatrix producing obstruction.

DISCUSSION.

Dr. **Elbridge G. Cutler**, Boston, believes that rest in ulcer of the stomach should be absolute for three or four weeks. In the fourth week the patient may be allowed to walk a little. For a long time he must not bend forward or bring any pressure on the epigastrium. For one week give milk and lime water. Second week, curd or strained cereal. Third week, eggs. Fourth week, chicken and simple diet. No raw fruit, pastry or beef for several months. For the first two days use rectal feeding, omitting it when you can give 6 oz. of milk and lime water at a time. Adrenalin helps in checking hemorrhage. Profuse or frequent hemorrhage or persistent pain calls for operation. Of his 65 cases all but 19 were of foreign parentage; 5 died; 1 recurred; 27 are well; 4 improved; 2 much improved, and 2 not improved.

Dr. **Marsena P. Smithwick**, Boston, agreed with Dr. Chase that HCh is practically useless. Hyperchlorhydria is a neurosis, and successful treatment classes it with neurasthenia. He treats it as such.

JOINT MEETING OF SURGICAL AND MEDICAL SECTIONS.

Methods of Medicine.

Dr. **Lewellys F. Barker**, of Johns Hopkins University, delivered an address on this subject. He said medicine is most complex. It was an art before it became a science, and is now only gradually becoming rational. Men have been busy collecting and classifying facts and as yet few laws have been formulated. In the gathering of facts reason has brought vast aids to the mere senses. Vision, hearing, touch are each far more accurate than formerly because of these aids. Exactness is everywhere demanded. Hypotheses must be tested by experiments. Experience is more valuable than comparison in determining causes. Scientific medicine contains within itself its own criterion. Only thus is the truth of any man's statement to be established. Truths we can now see were formerly invisible. The scientific medical man desires to act. Therapy then becomes aggressive. Better knowing results in better doing. Scientific therapy must be based on rational physiology. Do not separate the clinics from the laboratories. Medical schools are now training scientific practitioners.

SECTION IN SURGERY.

Dr. George H. Monks, Boston, Chairman.

Applied Anatomy of the Frontal Sinuses.

Dr. **Harris P. Mosher**, Boston, presented a paper on the descriptive and surgical anatomy of the frontal sinuses, illustrating his points by a large number of charts and drawings.

What the Suburban Surgeon is Doing in the Abdomen and How He Does It.

Dr. **Charles E. Durant**, Haverhill, cited his own experience of 250 surgical operations. His cases included appendicitis, pelvic disease, extrauterine pregnancy, hernia, etc. A mortality of only 11 in a list of 281 operations shows that good work is not done only in large city hospitals. After describing the deails of his technic and management, he argued the necessity and the possibility of keeping in touch with the large city clinics.

The Cause of Disability After Fracture of the Lower Leg.

Dr. **Frederick J. Cotton**, Boston, presented a preliminary report. He said the cause is not chiefly the deformity which may exist, but the relation which is established between the axes of the bones. Shortening is rarely over one-half inch. But there may be poor circulation, swelling and, hence, unfavorable results. The commonest defects are valgus, static flat-foot, inverted potts and shortened tendo-Achilles. There is a tendency to too great immobilization. Judicious massage is better. The foot must be kept at right angles with the ankle.

Other papers read were: "Early Diagnosis of Surgical Diseases of the Urinary Tract," by Dr. Benjamin Tenney, Boston; "Symptoms and Treatment of Disease of the Frontal Sinus," by Dr. F. C. Cobb, Boston.

Some Problems of Intermediary Metabolism.

Professor Russell H. Chittenden, of Yale University, gave the Shattuck lecture. He said: Metabolic processes do not yet constitute a complete chain. There are many gaps. As these are slowly filled in new gaps appear. Many diseases are clearly the results of perversions in metabolism. Chemical processes are all the time going on in the cells and glands. The same cells may produce a variety of products. How are these changes brought about? Formerly much emphasis was placed on the theories of "Vitalism." Now we know that cells manufacture and contain intracellular ferments. New ones are being constantly discovered. They are present within the cells of nearly all tissues and act best on the proteids of that tissue. Oxidation is due to these intracellular ferments known as "oxidazes." An illustration is found in the series of intermediary metabolic changes which occur in the change from nucleoproteids to uric acid. Moreover, these ferments may exhibit oxidation—probably a more important result even than the oxidation itself. Uric acid does not come chiefly from the food ingested, but from the muscle tissue, and owes its origin entirely to enzymatic oxidation. The same series of changes due to intracellular ferment, was demonstrated in the oxidation of carbohydrates. Here again "oxidazes" which inhibit allow or compel incomplete oxidation products. The final result depends on the successive action of the proper intracellular ferments.

Wednesday morning a number of Boston specialists demonstrated the latest methods of diagnosis. The demonstration was organized by Prof. W. T. Councilman of Harvard. The following topics were discussed: Frozen sections, boards of health, bacteriology, medicolegal tests, feces, blood, sputum, coagulation time, urine, cytodiagnosis, pathology, dermatology, otology, cystoscopy, blood pressure, neurology, digestion, *x*-ray, laryngology, physical diagnosis, and surgery.

The annual discourse was given by Dr. Charles A. Drew, State Farm, and was followed by the annual dinner.

Lieutenant-Governor Guild said Massachusetts is not merely abreast of other states in matters of medicine and sanitation, but in many points is the pioneer. No other state takes as good care of its insane, or feeble-minded, or furnishes free antitoxin for diphtheria. In matters of water supply and sewerage, Massachusetts is an international authority.

Louis D. Brandis, Esq., appealed to the physicians of Boston to take some concerted action and secure the expenditure for a Hospital for Consumptives of the $150,000 which was appropriated in 1901, but no part of which has yet been called for by the mayor.

WISCONSIN STATE MEDICAL SOCIETY.

General Session, Fifty-ninth Annual Meeting, June 8, 1905.

The President, Dr. C. W. Oviatt, in the Chair.

(Concluded from page 2004, vol. xliv.)

Squint.

Dr. H. V. Würdemann and Dr. N. M. Black, Milwaukee, said that it is a well-established fact that the large majority of crosseyed children can be cured of their squint without resorting to operative procedures, provided treatment is begun early enough.

DISCUSSION.

Dr. J. A. L. Bradfield, La Crosse, said that it is criminal to tell a parent that a child will outgrow squint. This disease is caused in most cases by errors of refraction, which, if corrected, will in time correct the squint.

Dr. G. E. Seaman, Milwaukee, said that the real objection to the Worth method of developing the fusion faculty is the time and patience necessary to bring about good results. Amblyopia is the effect rather than the cause of squint, but in amblyopic cases operation is frequently necessary. Squint is almost never outgrown without treatment.

Dr. F. T. Nye, Beloit, advised the earliest possible treatment. Kindergarten work does not cause, but discovers defective vision early and in time for correction. If the cases are not treated early, operation may become necessary.

Dr. Würdemann said the results of orthoptic treatment are encouraging. Half a dozen treatments are given at the office of the physician and the rest of the treatment is given at the home of the patient. It may require from three months to one or two years to effect a cure.

Placenta Prævia.

Dr. G. A. Hipke, Milwaukee, said that Cesarean section should always be performed where the child is alive in a case of placenta prævia centralis, but that it should never be performed in cases of placenta prævia lateralis or marginalis.

DISCUSSION.

Dr. T. L. Harrington, Milwaukee, stated that placenta prævia is not on the increase. The diagnosis is usually easy. Modern practice has reduced the death rate of mothers from 30 per cent. to 10 per cent., and the death rate of the children considerably. Cesarean section should seldom be resorted to even in placenta prævia centralis.

Dr. L. T. Bennett, Beloit, protested against the rule of performing Cesarean section in placenta prævia centralis. Great pains should be taken in these cases to avoid infection.

Dr. Warren B. Hill, Milwaukee, said the location of the patient is an important factor in the treatment. The expectant plan might be pursued in a good hospital, while under adverse surrounding and where the conditions are not favorable to immediate relief, premature labor should be brought about as quickly as possible.

Dr. J. R. Minahan, Green Bay, urged that the surgeon be called early, if at all, and not as a last resort.

Aseptic Obstetrics.

Dr. J. P. Cox, Spooner, urged absolute surgical cleanliness. Nature tries to protect the patient, and it is only when in our own bungling insanitary ministrations we overwhelm the guardian of the citadel with hostile germs that danger results.

Dr. E. L. Boothby, Hammond, said it is often too late to practice aseptic obstetrics in the country, but women under the conditions described seem to be immune from infection.

Dr. J. M. Dodd, Ashland, said that absolute asepsis in obstetrics is impossible.

Address in Surgery.

Dr. Hugh H. Young, Baltimore, Md., discussed the present status of surgery of the prostate. He gave an outline of the functions and pathology of the gland, and described his own modified perineal operation, whereby he leaves the floor of the urethra, the verumontanum and the ejaculatory ducts, thus preserving full sexual power in almost every instance. The prostate is one of the most important of the sexual organs. No progress has been made in the treatment of tuberculosis of the prostate during the last ten years, and operation is indicated. The etiology of prostatic hypertrophy is not definitely settled. Paralysis of the bladder is not a usual complication. Cystoscopic examination should be employed. Carcinoma of the prostate occurs in from 10 to 15 per cent. of supposed benign hypertrophies. It is one of the most important of curable surgical conditions. Enlarged, hard and irregular prostate with tendency to grow toward the seminal vesicles indicates cancer. An early diagnosis and permanent cure are feasible.

The Causes and Symptoms of Cardiac Insufficiency.

Dr. J. D. Madison, Milwaukee, said early symptoms should be studied and treated, but the diagnosis of myocardial disease is often difficult.

Dr. W. H. Washburn said the earliest evidences of myocardial insufficiency should be recognized and treated. The new Oertel stethoscope was exhibited.

Dr. A. J. Patek, Milwaukee, said that myocardial conditions, if recognized early, are quite amenable to treatment. Arrhythmia is not a perfectly reliable test of myocardial degeneration, but may be due to gastrointestinal or other disturbance.

Infantile Scurvy, with Special Reference to Diagnosis.

Dr. A. W. Gray, Milwaukee, gave the history and pathology of the condition and urged the importance of the disease, its proper early diagnosis and treatment. The disease is caused by improper feeding. Many children die on account of non-recognition of the disease.

Arteriosclerosis.

Dr. A. L. Potter, West Superior, said various instruments for measuring blood pressure are useful for the early detection of arteriosclerosis. Trunecek's inorganic serum is valuable in the treatment. The old saying that a man is as old as his arteries is a true one.

The Pathology and Non-Surgical Treatment of Injuries of the Stomach.

Dr. Wilhelm Becker, Milwaukee, described methods to be used in rectal feeding, oil inunctions. He advised packing about stomach to prevent infection of abdominal cavity with pancreatic juice and to keep the various organs clean.

Dr. Warren B. Hill spoke of the advantages of rectal feeding in such cases, but the feeding should be done by the physician in charge. Give the bowel ample time to rest between feedings.

Diagnostic Value of Cystoscopic Examinations.

Dr. W. A. Gordon, Jr., Oshkosh, said cystoscopy is a conservative diagnostic procedure that renders unnecessary many exploratory operations. It is useful chiefly in the diagnosis of urinary tumors. It affords the best means of collecting urine from each kidney separately. It is valuable in prostatic disease, calculus, appendicitis and bladder troubles generally. The instrument should be employed more freely than at present in the settlement of difficult diagnoses in urinary diseases.

Blood Examination as an Aid to Diagnosis.

Dr. M. Dvorak, La Crosse, showed methods used, emphasized the importance of the subject, and showed the great progress made.

Dr. Otho Fiedler, Milwaukee, said that work on the blood has heretofore been largely cellular, but now the plasma is receiving greater consideration. The test-tube pathology of the present is to be differentiated from the microscopic pathology of the past.

The secretary spoke very hopefully of the success of the society under the new plan, and said he believed that a membership of 2,000 would soon be attained and the dues could be decreased. One of the things hoped for was that membership in the county society would include membership in the state and national bodies.

KANSAS MEDICAL SOCIETY.

Annual Meeting, held in Wichita, May 3-5, 1905.

The President, Dr. Lawrence Reynolds, Horton, in the Chair.

House of Delegates.

The house of delegates considered the matter of redistricting the state into councils or districts and received reports on organization. During the year 49 county societies have been organized as component parts of the state society, and the membership has been increased more than 100 per cent.

The president, Dr. Lawrence Reynolds, Horton, chose as the theme for the presidential address, "The Doctor as a Business Man."

The program of the meeting was divided into symposia on nervous and mental diseases, eye diseases, general surgery, orthopedic surgery, state medicine and therapeutics.

Election of Officers.

The following officers were elected: President, Dr. C. E. Bowers, Wichita; vice-presidents, Drs. Harry R. Ross, Sterling; John D. Riddell Enterprise, and Samuel S. Glasscock, Kansas City; secretary, Dr. Charles S. Huffman, Columbus (for three years); treasurer, Dr. Lewis H. Munn, Topeka; librarian, Dr. Samuel G. Stewart, Topeka; councilors, Drs. Clarence C. Goddard, Leavenworth; Millard F. Jarrett, Fort Scott; Frank M. Daily, Beloit; Oliver J. Furst, Peabody; Herbert L. Alkire, Topeka, and Arthur L. Cludas, Minneapolis; delegate to the American Medical Association, Dr. Lawrence Reynolds, Horton.

The society will hold its next meeting at Topeka.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Pertussis.

At the onset of the disease, according to the *Amer. Text-Book of Applied Ther.*, a hot mustard footbath should be given, followed by a saline aperient and the following for internal use:

℞.	Tinct. aconiti	m. ii		12
	Vini ipecac	m. xlviii	3	20
	Syr. aurantii flor	℥ss	15	
	Liq. potass. cit. q. s. ad	℥ii	60	

M. Sig.: One teaspoonful every two hours for a child 2 years of age.

During the paroxysmal stage the indications for treatment are to relieve or to cut short the paroxysm and to subdue the irritability of the respiratory mucous membrane and of the general nervous system, and to get rid of the increased secretion in the bronchi. During the paroxysm the child should be made to sit down or to kneel, and the head should be held in the mother's hands. In very young children the mucus should be removed by the finger after the paroxysm has passed. A few swallows of water may serve the purpose.

Of all the antispasmodic preparations Starr ranks belladonna first. Under its use the frequency and severity of the paroxysm are allayed. The following formula is also recommended:

℞.	Pulv. ipecac.			
	Ext. opii aq., āā	gr. iv		25
	Ext. valerianæ	ʒss	2	

M. Ft. chart No. xvi. Sig.: From one to four during the day.

Jacobi, in the case of a child 6 years of age, begins with ten drops (.65) of the tincture of belladonna three times a day, and gradually increases the size of the dose till flushing begins. Other authorities begin with grain one-fourth (.015) of the extract of belladonna for a child 2 years of age, combined as follows:

℞.	Ext. belladonnæ	gr. iv		25
	Syr. tolutani q. s. ad	℥ii	60	

M. Sig.: One teaspoonful every two hours until the physiologic limit is reached.

The following is also recommended at the beginning of the whooping stage:

℞.	Zinci sulph	gr. i		06
	Ext. belladonnæ	gr. 1/6		01
	Syr. aurantii	ʒii	8	
	Aquæ	ʒiv	15	

M. Sig.: At one dose and repeat every four hours.

The dose of zinc sulphate and belladonna may be gradually increased.

To children under 1 year of age from one-half to one grain (.03-.06) of alum is given three or four times a day, and to older childen grains two (12) from every four to six hours. For a child 1 year old the following formula is recommended:

℞.	Ext. belladonnæ	gr. i		06
	Aluminis	ʒss	2	
	Syr. zingiberis			
	Syr. acaciæ			
	Aquæ, āā	*℥i*	*30*	

M. Sig.: One teaspoonful four times in twenty-four hours.

Antipyrin is of value when given in proper sized doses. Sonnenberger *recommends grain 1/6 (.01)* for each month of the child's age or grains one and a half (.09) for each year, and advises repeating the dose every four hours. This dose may be *gradually increased. The dose for larger children may reach from* grains eight (.50) to grains fifteen (1.00) three times daily. It should be commenced early in the course of the disease.

Emetics are sometimes recommended. For this purpose the syrup of ipecac is of value given in doses of from ten to twenty drops each (.65-.1.30) three times a day to a child 3 years of age.

Inhalations are recommended by some authors, such as an inhalation of steam containing from 1 to 2 per cent. solution of carbolic acid. *Oil of eucalyptus is said to be a more powerful* germicide than carbolic acid applied in the same manner. The following combination is recommended for this purpose:

℞.	*Olei eucalypti*		
	Olei terebinthinæ, āā	ʒii	8
	Spts. rectific	℥ii	60

M. *Sig.: As an inhalation one-half hour before each meal* and at bedtime.

Bronchitis.

The following combinations containing senega are of value in the treatment of bronchitis which is chronic in character:

℞.	Tinct. senegæ	ʒii	8
	Liq. ammon. acetat	ʒiv	15
	Spts. ammon. arom	ʒss	2
	Syr. simplicis	℥i	30
	Aq. feniculi q. s. ad	℥iv	120

M. Sig.: Three teaspoonsful three or four times a day. Or:

℞.	Vini ipecac.	ʒiss	6	
	Syr. pruni virg	ʒiv	15	
	Ammon. carb	gr. xx	1	30
	Infus. senegæ q. s. ad	℥iv	120	

M. Sig.: Three teaspoonfuls four times a day in water. Or:

℞.	Tinct. scillæ	ʒi	4
	Tinct. belladonnæ	ʒss	2
	Tinct. senegæ	ʒiii	12
	Elix. simplicis q. s. ad	℥vi	180

M. Sig.: One tablespoonful four times a day.

In the acute bronchitis of children the following combination is recommended:

℞.	Vini ipecac	m. x		65
	Liq. ammon. acetat	ʒss	2	
	Tinct. belladonnæ	m. i		06
	Spts. chloroformi	m. v		30
	Aq. feniculi q. s. ad	℥ii	60	

M. Sig.: Two teaspoonfuls every hour for four or five doses; then once every three or four hours.

False and Membranous Croup.

In the ordinary cases of false croup, unless the symptoms are severe, S. A. Visauski, in *Merck's Archives,* recommends the following outline of treatment:

℞.	Hydrarg. chloridi mitis			
	Sodii bicarb., āā	gr. ss		03
	Salol	*gr. 1/4*		*015*

M. Ft. chart. No. i. Sig.: One such powder every hour until four doses are taken.

For the croupy cough and for its relaxing effect the following is advised:

℞.	Apomorph. hydrochlor	gr. i		06
	Acidi hydrochlor. dil	m. xxx	2	
	Syr. senegæ	ʒiv	15	
	Syr. pruni virg	℥iss	45	
	Aq. anisi q. s. ad	℥iv	120	

M. Sig.: One teaspoonful every two hours for a child 3 years of age. Or:

℞.	Potass. carb	gr. xxiv	1	65
	Vini ipecacuanhæ	ʒiii	12	
	Spts. chloroformi	ʒii	8	
	Syr. pruni virg	℥i	30	
	Aq. anisi q. s. ad	℥iii	90	

M. Sig.: One teaspoonful every two hours.

A cloth wrung out in cold water, with a dry cloth on top, should be applied to the throat and changed every hour. The use of *medicated* steam is also recommended. The child is placed under a tent and the steam, charged *with turpentine* and eucalyptus oil or menthol and camphor, passed from a *Holt's kettle. If it is* a case of false croup one steaming is usually all that is necessary, but in membranous croup it must be repeated from time to time, according to circumstances. *If, by the foregoing* treatment, the symptoms do not clear up in twenty-four hours, antitoxin should be administered, giving to a child 2 years of age from 3,000 to 4,000 units, and repeating the dose in eight hours if necessary. If the croupy condition has existed three or four days before the physician sees the child and the type of the disease is malignant in character, 5,000 units should be used as the first dose. The severity of the disease should govern the treatment by antitoxin and not the age of the patient. The general nutrition of the child should be maintained together with proper elimination, and attention should be given the heart. If the disease still progresses, intubation or tracheotomy must be considered.

Some authorities recommend the following as of value in the treatment of false croup in adults:

℞.	*Vini ipecac.*	ʒiss	6	
	Antimon. tartratis	gr. 2/3		04
	Oxymel. scillæ	ʒi	4	
	Infus. senegæ q. s. ad	℥ii	60	

M. Sig.: From ten to fifteen minims every fifteen or twenty minutes until the cough is relieved.

Medicolegal

Length of Time Entitled to Hospital Benefits.—The Court of Civil Appeals of Texas says, in the case of Scanlon vs. Galveston, Harrisburg & San Antonio Railway Co., that the testimony of the plaintiff was sufficient to show that a monthly deduction of wages was made by the company with the understanding that the employe, when sick or injured, should be entitled to hospital benefits at the company's expense, and this would imply and mean, in the absence of an understanding to the contrary, the continuance of the benefits while the sickness or injury required same. Moreover, the company could not, by secret rules, or rules not communicated to its employes, change its relation to them.

X-Ray Burns Evidence of Malpractice.—The Supreme Court of Iowa says that the malpractice case of Shockley vs. Tucker was submitted to the jury solely on the question whether the defendant had been negligent in his method of using the *x*-rays *in the treatment of the plaintiff*, and that it thinks this was a question of science and skill, wholly independent of the methods of treatment of any particular school. That the plaintiff was severely burned in his abdomen by the use of the *x*-rays, and suffered great pain and extended, if not permanent, disability therefrom, was clearly shown; and the court hardly thinks *it would be contended that such burning* was proper treatment for any disease, or in accordance with the theories of any school. The witnesses were shown to be competent to testify as to the nature of the burns which are caused by an improper use of the *x*-rays; and, whatever error might have been committed in allowing them to testify as to whether the *x*-ray treatment was proper for appendicitis, it was without prejudice. The court thinks that the fact that the plaintiff was severely burned was some evidence in itself that the treatment was improper. But it was not proper, in making out a case for the plaintiff, to show incompetence and negligence in other cases by proving the results of the defendant's treatment in such cases.

Communications to Physician to Further Criminal Purpose.—The Minnesota statute provides that: "A regular physician or surgeon can not without the consent of his patient be examined in a civil action as to any information acquired in attending the patient which was necessary to enable him to prescribe or act for the patient." In the case of McKenzie vs. Banks the defendant called as a witness a physician, who testified that the plaintiff called on him; that he did not prescribe for her or treat her, and that he received no information from her which was necessary to enable him to prescribe or to act for her. The defendant then offered to prove by the witness that the plaintiff told him that she was with child and asked him to produce a miscarriage on her, not, however, on account of her health, but because she had too many children and did not want any more; and, further, that the request was refused by the witness. The evidence was objected to by the plaintiff, among other reasons, on the ground that it was an attempt to prove a privileged communication. But the Supreme Court of Minnesota holds that the evidence was not privileged. It says that it is clear that the communication to the physician sought to be proved by him was not acquired by him in attending the plaintiff, nor was it necessary to enable him to prescribe or act for her within the meaning of this statute. If the plaintiff made the statement assumed in the offer it was nothing more than an open request to the physician to join in a conspiracy to commit a vile crime, and it fell within the rule that professional communications are not privileged if made in furtherance of a criminal purpose.

Physical Examination for Impotency.—The Third Appellate Division of the Supreme Court of New York does not think that, in Gore vs. Gore, an action brought by a wife to annul her marriage to the defendant on account of his alleged physical incapacity and impotency, the objection was well taken that the court had no authority to grant an order requiring a physical examination of the defendant. It says that the old court of chancery never refused, that it can discover, to exercise such authority. On the contrary, it would never grant a decree annulling a marriage on that ground until such an examination had been had by competent and disinterested surgeons named or approved by the court, and such an examination would be directed, and the defendant ordered to submit thereto, on the court's own motion, in the event that neither party applied, on the ground that public policy required such proof of such a charge in order to warrant a dissolution of the marriage contract on that ground. Any less efficient proof was clearly so liable to collusion that it was deemed insufficient and unsatisfactory. But the court does not think that the order should direct the deposition of the physicians to be taken out of court and before trial. It says that it is of the opinion that no part of such an examination should in any instance, unless some peculiar and unusual features require it, be had at any other time than during the progress of the trial, or the taking of the evidence on default, in order that whenever practicable the whole proceeding may be under the immediate direction of the court. The proceeding at its best is a harsh and offensive one, and it will naturally be less trying to the defendant if it is conducted before the court itself. Also the testimony of the physicians as to the result of their personal examination will be more satisfactory to the court itself if taken before the court than if taken on a reference and produced second-hand.

Rank and Right of Physicians' Claims Against Estates.—Section 3347 of the Iowa Code provides that, subject to the expenses of administration, the charges resulting from the last sickness and funeral of the deceased, and allowance made for the maintenance of the widow and minor children, shall be first paid. All "other demands against the estate" are then separated, by section 3348, into five classes: 1, Preferred claims of the United States; 2, public rates and taxes; 3, claims filed within the first six months of administration; 4, all other debts, and 5, legacies and distributive shares—which classes are entitled to priority in the order named. Section 3349 provides that, "All claims of the fourth of the above classes not filed and allowed or if filed and notice thereof as hereinbefore provided is not served within twelve months from the giving of the notice aforesaid, will be barred." An administrator took the ground that, conceding that the claim of certain physicians came within the preferred class, by failure to file such claim within the first six months, it was relegated to the fourth class mentioned in section 3348; and, failing to file it within the year provided for claims of that class, it was barred, under the terms of section 3349. But the Supreme Court of Iowa holds otherwise. It says, in the case of Wolfe vs. Knapp, that, under the provisions above cited, creditors of the preferred class, to which the physicians belonged, are entitled to be first paid in full, even though it exhausts the entire estate. For the purposes of argument it may be conceded, as the administrator contended, that the preferred claims should be filed for allowance in the manner required for the allowance of other claims against the estate. It may also be conceded that failure to file and prove such claim within six months or twelve months may sometimes operate to defeat the preference to which it would otherwise be entitled, but not because such preferred claim is barred under section 3349. For instance, if the estate be insufficient to pay all creditors in full, and the physician or other preferred creditor neglects to file his claim until more than a year of administration has passed, and distribution is made or ordered on the basis of the claims appearing on file, he may well be held estopped by his own laches for coming in at such a late day and insisting on his priority. But where the estate is entirely solvent, and the rights of no other creditor are in any manner prejudiced by the delay, it will not lie in the mouth of the administrator to object to payment because the demand was not presented more promptly. The above classification is primarily for the benefit and protection of creditors, and not merely of the administrator; and, if the former be not prejudiced by the belated payment of the preferred claim, the latter should not be permitted to escape an honest debt, for the satisfaction of which it is admitted he has ample funds of the estate in his hand.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

June 17.

1. Relations of Public Health Science to Other Sciences. W. T. Sedgwick, Boston.
2 *Knee Injuries and How to Manage Them. De Forest Willard, Philadelphia.
3 Tropical Anemia. M. J. Rosenau, Washington, D. C.
4 *Present Status of Roentgen-Ray Therapy in Dermatology. J. H. Comroe, Philadelphia.
5 *Encephalitis and Other Nervous Affections Complicating Scarlatina. J. H. W. Rhein, Philadelphia.

2. **Knee Injuries.**—Willard discusses sprains, with or without laceration of ligaments; contusions, displacement of semilunar cartilages; loose bodies; sensitive joints, often called hysteric; blood clots in the joint, and synovitic effusions. He summarizes his papers as follows:

1. Apparently slight injuries of the knee often prove more lasting and annoying than those of a more positive nature, as fracture or dislocation.

2. Every injury of the knee should receive careful examination, since laceration of ligaments or of periarticular tissues, or displacement of semilunar cartilages, or of loose bodies, may have occurred. Obscure fractures, also, are not uncommon.

3. Every injured knee required rest during its acute inflammatory stage; rest in bed, fixed dressings, and crutches are needful. Heat and cold are two powerful agents in aborting a threatened inflammaton.

4. Adhesive plaster strapping is of great value in securing partial restraint of a knee and in producing absorption of effusion. Restricting apparatus should be used with discrimination.

5. Blood clots in the joints should be removed by incision and flushing.

6. Effusions, if large, should be removed by aspiration, or incision followed by weak iodin injection.

7. Displaced semilunar cartilages should be stitched in position, or removed. Loose cartilaginous bodies should be removed.

8. Motion is the normal condition of joints, consequently massage and voluntary motions should be instituted as soon as the inflammatory stage has passed. Neglect of this precaution may result in a neuromimetic patient and a chronic cripple.

9. Sensitive neurotic knees should not be mistaken for diseased ones.

10. Complete primary rest during the inflammatory stage, followed by massage, voluntary and involuntary movements, gymnastic exercises, hot-air treatment, hot and cold douchings, etc., are the best means at our command for preventing ankylosis.

11. Should ankylosis follow, forcible straightenings, tenotomies, osteotomies, etc., may be required.

4. **Roentgen Ray In Dermatology.**—Comroe's conclusions as to the value of the Roentgen ray in the treatment of diseases of the skin are as follows:

1. Radiotherapy must not be considered a panacea. Although it has a large field of usefulness, it also has its limitations and dangers.

2. Most consistently good results are obtained in epithelioma, rodent ulcer and acne.

3. Great benefit may be looked for in eczema, chiefly the vesicular variety affecting the hands, sycosis, tinea tonsurans, verruca, lichen planus, nevuses and port wine marks, localized pruritus, favus, etc.

4. Deepseated epitheliomas, with exposure of bone, cartilage, etc., appear to do well for a while, but usually get worse eventually. The judicious combination of radiotherapy and operation is highly recommended in these cases.

5. The Roentgen rays are beneficial when pain is particularly to be avoided, as in old, feeble people.

6. Radiotherapy produces the best cosmetic results.

7. Recurrences after radiotherapy are less frequent than after other methods, and are more amenable to re-application of the rays.

8. The high vacuum tube is preferable in epithelioma, rodent ulcer, and lupus, the medium or soft tube being employed in other cases.

9. Radiotherapeutic treatment should be instituted as soon as possible, the result being usually in direct proportion to this factor.

10. Epithelioma of the skin usually reacts better than that involving the mucous membranes.

11. Tampering with caustics and other irrational forms of treatment are to be condemned as measures preceding radiotherapy, since they undoubtedly unfavorably alter the prognosis in such cases.

12. No rule can be laid down for the prevention of burns, etc.; hence the dosage must be carefully regulated in each individual case.

13. No protective ointments, powders, etc., must remain on the part treated, since they may prohibit or lessen the effect of the rays by interfering with their passage.

5. **Nervous Affections Complicating Scarlatina.**—In the case reported by Rhein, while, clinically, symptoms of meningitis or irritation of the brain were practically absent, pathologically, there was evidence of beginning pachymeningitis and encephalitis. The most common complications of scarlatina on the part of the nervous system, says Rhein, are hemoplegia and peripheral neuritis. More rarely this disease may be followed by paraplegia, optic neuritis, amaurosis, tetany, pseudoataxia, neuralgia, epilepsy, disseminated sclerosis, Friedreich's ataxia, hysteria, chorea, hydrocephalus, meningitis and disordered mental states. With the exception of hemiplegia and imbecility, the prognosis is good, if we exclude those rare organic cases such as Friedreich's ataxia, disseminated schlerosis, and epilepsy, which are recorded as following scarlatina. Some of those conditions, like Friedreich's ataxia, are probably merely hastened in their manifestations by the scarlatinal process. The pathologic findings consist of thrombosis, embolism, small cerebral hemorrhage, rarely abscess of the brain, congestion of the brain, meningitis, and finally meningitis and encephalitis.

Medical Record, New York.

June 17.

6 *Carbon Factor in Gout: "Hyperemia." F. Hare, London.
7 Removal of the Lens in Myopia. J. L. Barnes, New York.
8 *Rectal Injections of Large Doses of Sodium Salicylate in Cerebrospinal Meningitis. A. Seibert, New York.
9 Medical Phases of Immigration Legislation. V. G. Heiser, Manila.
10 *Masturbation in Childhood. A. A Strasser, Arlington, N. J.
11 Saw Palmetto in Tonsillitis. I. L. Van Zandt, Ft. Worth, Texas.

6. **Carbon Factor in Gout.**—Hare's theory of the nature of gout, is the retention in the body of carbonaceous material. Normally there must be a systematic equilibrium between the carbonization of the blood from the body's carbon intake and its decarbonization, but Hare believes that at times this balance may be disturbed and carbonaceous material accumulate in the blood to an ultra-physiologic or pathologic degree. To this hypothetical state he applies the term hyperpyremia, and to the normal state, the term pyremia. The means by which hyperpyremia may be dispersed are numerous, and include bilious attacks, migraine, gastralgia with anorexia, asthma, major epilepsy, and acute articular gout. Some of these operate through increased expenditure, others through restricting the intake, and their action is called by the author, carbonization. The mechanism of acute articular gout involves an interdependence between hyperpyremia and uricemia, through which the kidneys at times become more active in excreting uric acid, that is, the renal disability depending on hyperpyremia is terminated by a carbonization of the blood. Hare summarizes as follows his view of the steps in acute gout: (1) Hyperpyremia from excess of carbonaceous income or deficiency of carbonaceous expenditure. (2) Progressive accumulation of uric acid in the blood; uricemia. (3) Deposition of a portion of the uric acid in a joint. (4) Acute arthritis. (5) Pyrexia involving increased combustion. (6) Acarbonization of the blood. (7) Free renal elimination of uric acid retained in the blood. (8) Recovery by the blood of its solvent powder for uric acid. (9) Reabsorption of the extravascular articular deposits of uric acid. Thus the acute gouty paroxysm may be regarded as a "pathologic function"—as a conservative reinforcement of inadequate physiologic function; and uric acid may be regarded as an essential instrument therein.

8. **Sodium Salicylate in Cerebrospinal Meningitis.**—Seibert believes that the administration of large doses of sodium salicylate, given by rectum to avoid gastric disturbances, forms the most satisfactory plan of treatment of this disease. Five cases are described in which the use of large doses of the drug appeared to exert a powerful curative effect. According to the age of the patients, sodium salicylate was given by rectum in fifteen grain doses dissolved in a tablespoonful of water, at intervals of from one to eight hours, the salicylization being gradually reduced as improvement followed. In one case, that of a boy aged four and a half years, who had had the disease for seven weeks some months previously, and presented numerous sequelæ such as contractures, hemiplegia, strabismus, etc., very remarkable improvement followed the treatment, though it was begun at so late a date. In a tuberculous case, the salicylate did not appear to be effective. Effective sodium salicylate solutions must retain the color of distilled water. Yellow discoloration proves chemical changes, rendering the drug inefficient. When the rectal mucosa becomes irritated, a further dilution of the drug is indicated. Lateral compression of the sphincter ani assists in retaining the solution in the bowel. Small doses, given at shorter intervals, are ineffective.

10. **Masturbation in Childhood.**—Strasser analyzes the physical and other causes which may lead to the development of this vice, and also discusses the treatment. This consists mainly in prophylaxis and moral suasion, proper mental exercise, and hydrotherapy, rather than the sedative and tonic drugs usually advocated.

Boston Medical and Surgical Journal.

June 15.

12 *Experimental Study of the Accuracy of Modern Clinical Methods for the Diagnosis of Disorders of the Stomach. H. F. Hewes, Boston.
13 Individual Factors in Hygiene. R. C. Cabot, Boston, and P. K. Brown, San Francisco.
14 Effects of Tobacco on the Throat. S. W. Langmaid, Boston.
15 *Treatment of Status Epilepticus. A. Morton, Palmer, Mass.
16 Reflexes in Epilepsy. A. Morton.
17 Exhaustion Paralysis in Epilepsy. M. B. Hodskins.
18 *Hypochlorization Method of Treatment of Epilepsy. A. Morton.
19 Lumbar Puncture in Status Epilepticus. M. Hodskins and A. Morton.

12. **Diagnosis of Gastrectasis.**—Hewes for some time has been making an experimental study of the question of the diagnosis of the conditions of stasis in stomach cases to determine as far as possible just what means are at our disposal for the investigation of this point in clinical work, and how great accuracy in diagnosis of the conditions can be attained by the employment of this means to its full extent in routine in the clinic.

His experimental work consisted of the study of 180 cases of various stomach conditions, including the normal condition, and the numerous varieties of stomach disorder as they appear in the clinic, with special regard to the selection of such clinical findings as will aid in the differentiation of conditions of stasis from other conditions of the stomach. The method of investigation adopted was that commonly recognized as the most useful single method for determining the existence of gastrectasis in clinical work, the examination of the contents of the fasting stomach. A comparative study of the records of these 120 cases in regard to the characteristics of the fasting contents indicated that the pathognomonic characteristics of stasis contents were never present in the normal or in other stomach disorders, so that their presence in a case might be significant in differential diagnosis. These were: (1) The presence of an abnormal food residue; (2) the presence of sarcinæ; (3) the presence of lactic acid; (4) the presence of abnormal yeast fermentation. An investigation of the records of the two sets of cases included in the research, the 26 stasis cases and the 154 no-stasis cases, including the 20 normal and 134 abnormal, in regard to these essential or special stasis characteristics, shows the following facts: The first factor, the abnormal food residue in the fasting contents, was present in 24 of the 26 stasis cases. In 2 cases, no food residue, other than the scattered particles which are found in normal contents could be determined. In the 134 no-stasis cases a distinct food residue, recognizable as such by the eye or microscope, was not present in any case. The three remaining characteristics are occasional factors. Thus sarcinæ were present in 7 out of 26 cases, lactic acid in 8, yeast fermentation in 18. No one finding is present in all cases of stasis, and one of the findings may be present where another fails. The condition of stasis can not, therefore, be ruled out in any given case except by a routine application of all tests. Hewes says that the method of research for the determination of the existence or nonexistence of stasis in a given case should be as follows: The stomach contents should first be examined for the presence of the most constant characteristic, the food residue. If this finding is positive, the diagnosis of general motor insufficiency or pyloric obstruction is made, and no further investigation of this special point is necessary. If this test is lacking or doubtful, each of the three additional tests, the sarcinæ test, the lactic acid test and the yeast fermentation test, should be tried in turn. If any one of these is positive the diagnosis of stasis is still positive, though in this case the stagnation may be local as well as general. If all four tests are negative the existence of stasis may be regarded as not proved.

The summary of the special record which forms this experimental test is as follows:

Among 180 cases included in Hewes' investigation, 39 patients came to the surgical operation or to postmortem examination. In these 39 cases, 21 had a clinical diagnosis of stasis and 18 a diagnosis of no-stasis. In the 21 cases of clinical stasis an anatomic finding of obstruction of the pylorus that is of an actual anatomic cause for insufficient drainage, was found in every case. The actual pathologic findings in these 21 stasis or obstruction cases were: Cancer at the pylorus, 11 cases; ulcer at the pylorus, 9 cases; adhesions about the pylorus, 1 case. In the 18 clinical nostasis cases, the pylorus was found to be intact or patent in every case. The actual pathologic findings present in these cases were: Cancer of the stomach, 10 cases; ulcer of the stomach, 3 cases; chronic gastritis, 2 cases; no demonstrable lesion of the stomach, 3 cases.

That is, in the 39 cases in which it was possible to obtain an actual test of the accuracy or the significance of the clinical finding, the finding of stasis (twelve-hour stasis) was discovered to be an associate and sign of a pathologic lesion of the stomach of a serious character. No lesions of the pylorus were found in any of the test cases which did not show stasis. Three indications of importance in connection with the study of stomach conditions are: (1) The existence of obstruction of the pylorus in a given case can always be diagnosticated by a proper method of investigation; (2) the clinical sign of stasis (twelve-hour stasis) as a constant feature of a case is always a sign of a serious condition; (3) stasis is not, as a rule, an associate of even the serious stomach conditions as cancer or ulcer; unless the lesion is situated in the region of the pylorus.

15. **Treatment of Status Epilepticus.**—During the past twelve months Morton has used a sterile solution of sodium bromid hypodermically in many cases, and generally with good results. The best results were obtained with a solution of the sodium salt of the strength of 30 grains to the ounce. Stronger solutions than this are too irritant and are apt to produce abscesses. The solution, even in this strength, should never be injected in large quantities into the thighs and breasts. The site selected for the injection is the back just below the angle of the scapula. Here several ounces of the solution may be injected without fear of abscess formation. The amount of bromid injected varied in different cases; frequently from 60 to 100 grains will control the convulsions; but sometimes 180 grains or 6 ounces of the solution have to be injected before the desired result is obtained. The earlier the injections are commenced the better. If certain patients, who are apt to have series of convulsions or to develop status, have two convulsions in succession, they at once receive ten hypodermic injections, twenty minims each, of the sterile sodium bromid solution. If the patient continues to have convulsions, ten of the small hypodermic injections are given after each convulsion until the patient has received forty injections with the small syringe. If the patient continues to have convulsions after having received forty of the small injections from 1 to 4 ounces of the solution are injected into the tissues of the back. For these last injections, a large antitoxin syringe is used. Morton made use of lumbar puncture in cases of status epilepticus in seven cases with varying results. Three patients died. In none of the cases was it used during the first of the attack; but only after repeated injections of sodium bromid and other agents had failed to control the seizures. Four of the patients showed a marked improvement after the withdrawal of from 10 to 15 c.c. of cerebrospinal fluid, while in the others, there was little if any permanent effect obtained. In five of the cases the fluid was under increased pressure. In one of the cases 20 c.c. of the fluid were withdrawn after which 10 c.c. of sterile sodium bromid solution, 30 grains to the ounce, were injected into the subdural space. The patient, who had had twenty-five hard convulsions up to the time of the puncture, ceased having them and had only one more in the next fifteen hours. While the results have been varied, Morton feels that lumbar puncture may serve a useful purpose in the treatment of status epilepticus, especially in those cases in which there is increased intracranial pressure. The earlier the puncture is performed the better will be the results.

18. **Hypochlorization Method of Treatment of Epilepsy.**—The hypochlorization treatment has been in use at the Massachusetts Hospital for Epileptics for several years. Morton has had 24 patients who are either feeble-minded, idiotic or demented on this treatment for two and one-half years. The diet of these patients has consisted mostly of milk, eggs, bread and butter, gruel and soups, to which has been added enough sodium bromid so that each patient received about 15 grains a day. Sodium chlorid has not been entirely excluded from their diet. The results in this class of cases were very encouraging. The number of attacks decreased markedly, and the patients were much quieter than they were before the treatment was commenced. The hypochlorization method controls the convulsions, requiring only about one-half the amount of bromid usually given. It has little or no effect on the general nutrition of the patient, but is apt to cause constipation. It does not furnish enough salt to satisfy the patient's craving, but may be used with success with intelligent patients. A modified salt-poor diet, in which about equal parts of sodium chlorid and sodium bromid are used in the food may be used to advantage with iodiotic and demented patients if their diet can be controlled absolutely. Bromism is comparatively rare.

Medical News, New York.

June 17.

20 Value of Lumbar Puncture, with Particular Reference to the Diagnosis of Tuberculous Meningitis. E. P. Bernstein, New York.
21 Bacterial and Cellular Examination of the Spinal Fluid in Fifty Cases of Cerebrospinal Meningitis. T. W. Hastings, New York.
22 *Gall-Bladder Surgery, with Especial Reference to Early Diagnosis and Early Operative Interference in Cholecystectomies, with Brief Summary of Twenty-eight Cases, Including Six Cholecystectomies. F. Martin, Baltimore.
23 Adulteration and Substitution. G. C. Dickman, New York.
24 Colds and the Prevention of Colds. N. James, New York.
25 Carbohydrate Reactions of the Paratyphoid or Paracolon Group (Preliminary Communication). W. W. Ford, Baltimore.

22. **Gall-Bladder Surgery.**—Martin says that any case of gallstones is of such importance as to demand surgical aid, whether the patient has symptoms or not, for in these early recognized cases simple uncomplicated operations can be done and brilliant results achieved. The method of operation which provides free and thorough drainage of the gall ducts and gall bladder should be the method of choice. It is Martin's opinion that when one has to do with a badly infected or possibly gangrenous gall bladder, with necrosis of the adjacent liver structure and local peritonitis, the offending organ would better be extirpated. Martin gives a summary of 28 cases; 19 cases

of cholelithiasis, with cholecystitis in one form or another, the location of the stones being both in the common duct and in the gall bladder. In 5 cases the stones were found in both common duct and gall bladder, and in the rest of the cases they were confined to the gall bladder. There were 4 cases of malignant diseases of the biliary tract, in 2 of which the patient died following operation; the others were left unimproved. Of these 28 cases there have been 6 cholecystectomies, in all of which the patients made excellent recoveries; 3 were done for acute perforative cholecystitis, or empyema of the gall bladder, in which the gall bladder was gangrenous; 1 for chronic cholecystitis, with a large stone in the gall bladder; 1 for hydrops of the gall bladder which was large and distended, due to a large stone being impacted in the cystic duct, and 1 case for biliary fistula, with stones in the gall bladder and common duct. Four of the cholecystectomy cases turned out to be liver abscesses; the patients were sent to the hospital, however, as gall-bladder cases, and were put on this list. In all of these cases the abdomen was opened and freely drained and the patients made good recoveries. In 1 case there is gumma of the liver and perihepatitis. An exploratory laparotomy was done and no opening of the biliary tract was found necessary. The wound healed under one dressing and the patient is getting well under the use of iodid of potash.

New York Medical Journal.

June 17.

26 Modern Doctor. A. Jacobi, New York. (To be Concluded.)
27 Etiology and Diagnosis of Cholelithiasis. W. Ruoff, Philadelphia.
28 *Clinical Experience with Antitoxin and Advantage of Large Doses. L. Fischer, New York.
29 *Observations on the Diagnosis of Herpes Zoster. D. M. O. Robinson., New York.
30 *Local Versus General Anesthesia in Rectal Surgery. J. P. Tuttle, New York.
31 *Fibroid Tumors of the Uterus; Their Surgical Treatment. F. H. Martin, Chicago.
32 Shot at Christian Science from a Toy Pistol. A. C. McClanahan, Chicago.
33 Problem of the Tropics; the Interrelation of Certain Social and Business Questions. G. A. England, Plantation, Maine.

28. Clinical Experience with Antitoxin.—Fischer discusses the relative merits of large and small doses of antitoxin, and in this connection cites statistics taken from the clinical records of the Willard Parker Hospital. The antitoxin used at this hospital is known as the New York Board of Health serum. The strength is about such that 1 c.c. equals 400 to 500 units; 10 to 20 c.c. being the usual dose. For three months in 1903, out of a total of 361 cases, pharyngeal and intubated, there were 76 deaths, or about 21 per cent., under small doses of antitoxin. For four months in 1904 there were 469 cases, with 66 deaths, or about 14 per cent., under large doses of antitoxin. Fischer points out that the Willard Parker Hospital is a city hospital, and hence when septic cases, unsuccessful tube cases with diphtheria, or cases complicated by pneumonia are sent in, the mortality is increased considerably. If these patients, who are sent into the hospital frequently in a moribund condition, and those that die within twenty-four hours after admission, could be deducted, the statistics would prove the specific value of antitoxin more forcibly. In the Municipal Hospital of Philadelphia the mortality during the pre-antitoxin period was 29.58, while during the antitoxin period it was only 22.2. Statistics from other hospitals make the same showing. When large doses of antitoxin are used the mortality always is lower than when small doses are used.

29. Treatment of Herpes Zoster.—The plan recommended by Robinson is as follows:

> Rest, attention to the general nutrition of the body, the ground for the microbes, the application of cold over the affected ganglia, a coal-tar preparation for the toxemia, and codein and bromid of potassium for pain not controlled by the antipyrin. Local treatment consists in aseptic and antiseptic measures. If the case is seen at a very early stage, the affected area can be disinfected in the usual manner by soap and alcohol and then painted with flexible collodion—and when convenient an antiseptic gauze applied. If seen later, when vesicles are changing in color, an ointment of boric acid and bismuth subnitrite, and avoidance of soap and water meet the indications. Later, ichthyol may be added to the ointment, or an antiparasitic preparation, as the ammoniated chlorid of mercury ointment with rose ointment to which bismuth may be added and also ichthyol. For the persistent neuralgias following zoster, anodynes and the faradic current or *x*-ray may be of some curative value, but on account of probable structural changes in the nerves and connective tissue of the ganglia, the condition is very rebellious to usual methods of treatment for neuralgia. Tonics. such as phosphid of zinc, and alteratives, such as arsenic, are also recommended.

30. Anesthesia in Rectal Surgery.—Tuttle says that simple fissures, small straight uncomplicated fistulas, ordinary skin tabs, isolated, prolapsing internal hemorrhoids in patients with stable nervous organisms may all be satisfactorily operated on with local anesthetics, of which cocain and eucain are the best. In all other conditions, including extensive hemorrhoids, complicated fissures and fistulas, and always in neurotic hyperesthetic individuals we should resort to general anesthesia.

31. Surgical Treatment of Uterine Fibroids.—The conclusions presented by Martin are based on an analysis of the last 200 consecutive cases of fibroids of the uterus in which he operated by hysterectomy or myomectomy up to Dec. 1, 1904, on the analysis of 1,188 cases reported by Dr. C. P. Noble, and on knowledge gained by the different forms of less radical operative procedures and on the non-operative methods employed by himself during a period of over eighteen years in caring for more than 400 cases not submitted to radical operation. Among the inherent conditions giving rise to dangerous symptoms in the 200 cases were the following: (1) Enormous development of growth rendering operative interference imperative, which occurred in 11 cases, or 5.5 per cent.; (2) dangerous uncontrollable hemorrhage in 41 of the cases, or 20.5 per cent.; (3) pregnancy complicating the tumor, making operation necessary in 6 cases, or 3 per cent.; (4) carcinoma of the cervix in 2 cases, or 1 per cent.

The following inherent conditions of importance were discovered when the tumors were removed:

> (1) Serious broad ligament extension in 19 cases, or 9.5 per cent.; (2) serious adhesions to soft parts in 8 cases, or 4 per cent.; (3) cystic degeneration of tumor in 8 cases, or 4 per cent.; (4) myxomatous degeneration in 30 cases, or 14 per cent.; (5) calcareous infiltration of the tumor in 6 cases, or 3 per cent.; (6) deep suppuration of the tumor in 2 cases, or 1 per cent.; (7) carcinoma of the body of the uterus complicating the tumor in 3 cases, or 1.5 per cent.; (8) sarcoma complicating the tumor in 2 cases, or 1 per cent.; (9) senile endometritis giving rise to severe symptoms after the menopause occurred in 3 cases, or 1.5 per cent.; (10) suppurative endometritis was a complication in 5 cases, or 2.5 per cent.; (11) submucous projection of fibroid centers which produced serious symptoms occurred in 11 cases, or 5.5 per cent.; (12) necrosis of the center of the tumor occurred in 3 cases, or in 1.5 per cent.

Accessory conditions depending on or complicating the fibroids were the following:

> (1) Pyosalpinx (double) in 20 cases, or 10 per cent.; (2) pyosalpinx (single) in 5 cases, or 2.5 per cent.; (3) hydrosalpinx in 6 cases, or 3 per cent.; (4) cystic ovaries (double) in 7 cases, or 3.5 per cent.; (5) malignant adenocystoma of the ovaries in 1 case, or 0.5 per cent.; (6) parovarian cysts in 5 cases, or 2.5 per cent.; (7) dermoid cysts of the ovary in 5 cases, or 2.5 per cent.; (8) large adenocystomas in 7 cases, or 3.5 per cent.; (9) hematoma in the left broad ligament in 4 cases, and in the right broad ligament in 3 cases, making a total of 7 cases, or 3.5 per cent.; (10) varicose veins in the broad ligaments in 5 cases, or 2.5 per cent.; serious extensive intestinal adhesions in 8 cases, or 4 per cent.; serious and chronic intestinal obstruction from tumor pressure in 7 cases, or 3.5 per cent.; (12) acute intestinal obstruction from pressure in 2 cases, or 1 per cent.; (13) serious pressure symptoms in 13 cases, or 7.5 per c [illegible] cases, or 3 per cent.; (15) extrauterine [illegible] per cent.; (16) pregnancy complicating [illegible] in which tumors were removed and [illegible] term, 3 cases, or 1.5 per cent.; (17) [illegible] plicating the tumor in 3 cases, or 1.5 [illegible] rs from obstruction caused by tumor pressure in 2 cases, or 1 per cent.; (19) hydronephrosis (large size) from tumor pressure, in 2 cases, or 1 per cent.

From all this material Martin draws the following conclusions:

> 1. The routine treatment for fibroids of the uterus, presenting symptoms, in women under 45 years of age, should be supravaginal hysterectomy, except as hereinafter stated. The exception to this rule should be (a) in subperitoneal tumors either pedunculated or not, in which only one or more distinct developments exist which do not materially increase the size of the uterus proper and the area of its endometrium, when myomectomies may be resorted to; (b) in fibroids which present excessive hemorrhagic tendencies, in which the hemoglobin is reduced below 25 per cent., or in which serious vascular cardiac or kidney complications exist which greatly increase the risk of the operation, when a preliminary operation of vaginal ligation of the uterine arteries should be resorted to; (c) in cases where a radical operation will not be accepted, a curettement and vaginal ligation of the uterine arteries may be resorted to, or, if no operation at all will be accepted, general tonics, ergotin in tonic doses, and galvanism scientifically applied may be depended on to relieve the patient materially, and occasionally tide them over the menopause to a complete symptomatic cure.
>
> 2. The treatment for large, complicated tumors, without regard to age, or large apparently uncomplicated tumors in which symptoms of hemorrhage or pressure exist, should be submitted to supravaginal hysterectomy.
>
> 3. Tumors of medium size apparently uncomplicated in women over 45 years of age may be managed by one of the less radical forms of treatment as: (a) when the tumors are of the symmetrical development type, enlarging uniformly the uterus, and the principal symptom is an exaggerated menstrual flow, the cases may

almost invariably be relieved by galvanism and tided over the menopause; or (b) if the growth is of the irregular type which has distorted more or less the uterine cavity, the case should be submitted to dilatation, finger exploration, curettement and, if considerable flowing is a symptom, vaginal ligation of the uterine arteries, with the idea of obtaining a symptomatic cure over the menopause.

(4) The extremely small class of tumors coming under the head of inoperable cases must be managed on general principles. Rest in bed, general tonics, treatment of the cardiovascular and kidney complications when they exist, curetting and irrigating for septic endometritis, electricity for pain and hemorrhage, ligation of the uterine blood supply if practicable for intractable hemorrhage and vaginal incision of impacted cysts or pus accumulation.

Lancet-Clinic, Cincinnati.

June 17.

34 Thyroidectomy in the Treatment of Exophthalmic Goiter. J. Ransohoff, Cincinnati.
35 Vital Values. C. H. Vaught, Richmond, Ky.
36 *Treatment of Diphtheria. M. A. Albl, Cleveland, Ohio.
37 Two Cases of Cesarean Section. J. F. Baldwin, Columbus, Ohio.

36. Treatment of Diphtheria.—Albl's paper is based on a personal experience in 106 cases, 37 of which occurred prior to the period of antitoxin, and 69 since. Of the first 37 cases, 25 were uncomplicated, the membrane extending over the tonsils and uvula only. In 4 the membrane extended into the nose and pharynx; and in 4 there was extension into the larynx as well; 4 were purely laryngeal. The mortality rate in this series of 37 was 30 per cent. Of the 11 fatal cases 7 were pharyngeal, 4 were laryngeal. Since the period of antitoxin he has treated 69 cases, 48 of which were pharyngeal and nasopharyngeal, 10 were purely laryngeal, and 8 were pharyngeal and laryngeal. In this group the mortality rate was reduced to 5.8 per cent. Of the 4 fatal cases 2 were of the buccal variety, 1 pharyngeal and 1 nasopharyngeal. Of the 36 patients treated by the antitoxin method 7 were between six months and one year old, 16 between one and three years, 28 between three and five, 15 between five and twelve. Of these 41 were females and 15 were males.

St. Louis Medical Review.

June 10.

38 Determination of Responsibility in and the Care of the Criminal Insane. H. J. Scherck, St. Louis.
39 Rupture of the Gall Bladder (Spontaneous and Traumatic, with and Without Operation); an Historical Review of 273 Cases. B. M. Ricketts, Cincinnati, Ohio.

Journal of the Association of Military Surgeons of the United States, Carlisle, Pa.

May.

40 Naval and Military Medical Officer. T. Roosevelt.
41 Medical Corps of the United States Navy. Some Details Respecting Its Past and Present. J. N. Hyde, Chicago.
42 Treatment of Upward Dislocation of the Acromial End of the Clavicle in the Tropics. P. R. Egan.
43 *Dangers of Unrestricted Traveling of Consumptives. J. W. Trask.
44 Medical Service of an Army in Modern War. W. D. McCaw.

43. Dangers of Unrestricted Traveling of Consumptives.—After having lived for two years at a sanitarium having approximately 200 consumptive patients, with whom he was continually in intimate contact, Thrask arrives at the conclusion that there is less danger of the infection in a well-regulated institution than there is in ordinary city life, and many times less than in traveling, where one is apt to use berths on trains, rooms in hotels, and dishes at meals that have been used previously by those suffering from pulmonary tuberculosis. He urges notification of the proper officials of the existence of cases of tuberculosis, as is at present the custom in the acute contagious diseases. Health officers should thoroughly instruct such patients as to the proper care of sputum, sterilization of all articles used in eating, sterilization of soiled handkerchiefs, the dangers from rugs, carpets, plush upholstered furniture, etc.; the disinfection of houses, if desired; proper building of railway coaches having in view simplicity of arrangement and furnishing, thus permitting of easy sterilization; disinfections of cars at the end of each trip, or two or three times a week; the use of sputum cups while on the train; special compartments for consumptives; disinfection of rooms in hotels occupied by consumptive guests; sterilization of all dishes and eating utensils, and, to make the campaign thorough, periodical disinfection of public bulidings.

Pennsylvania Medical Journal, Athens.

May.

45 *Prevention of Tuberculosis. H. S. Anders, Philadelphia.
46 Boils. G. W. Guthrie, Wilkesbarre.
47 Extract of Suprarenal Gland in Surgical Shock; a Report of Two Cases in which the Drug was Used. A. R. Craig, Columbia.
48 Case of Cesarean Section Done After Failure to Effect Version in an Impacted Transverse Presentation. G. W. Wagoner, Johnstown.
49 Is the Optometrist Legally and Scientifically Qualified to Practice Medicine? P. J. Kress, Allentown.
50 *Treatment of Infected Wounds with a Phenol Product. C. B. Longenecker, Philadelphia.
51 Craniectomy in Microcephaly. W. D. Teagarden, Washington.
52 Carbolic Acid and Ammonia Burns of the Eye. E. Stieren, Pittsburg.
53 Perirectal Abscess. J. A. Hawkins, Pittsburg.

45. Prevention of Tuberculosis.—Anders points out briefly a few indications along the lines of prevention. Alcoholism, whether the result of moderate or excessive but habitual use of the ordinary so-called beverages or drinks, or in the still more subtle and dangerous form of patent or proprietary medicines, the majority of which are obnoxiously alcoholic, should be warned against as one of the most insidious filchers of good health and that vital resistance which laughs at tubercle bacilli. There should be effectual legislation against the granting of marriage licenses to consumptives. More consideration should be given to the prevention of tuberculosis among children. Better provision for the care of the poor, weak, delicate, anemic lads and girls in ill-ventilated, foul, dark and dirty mills and stores, is an imperative and widespread need. Here is a magnificent opportunity for philanthropy; a serious duty of the municipality. The common use of public drinking cups is extremely risky. Travelers should use their personal cups. Individual cups should be used in the public and parochial schools as well as in the few private academies where they are now used. It is encouraging to note that in the twelve years since the agitation began in Rochester, N. Y., and in Philadelphia, the adoption of individual communion cups has occurred in approximately 2,500 churches of the principal denominations of the United States. School children should be taught the fundamental facts about tuberculosis in the course of hygiene, such as proper modes of living especially antagonistic to the development of the disease, cleanliness in the home, and so forth. In fact, "the essentials of our knowledge regarding tuberculosis should be known to everybody. In the public school, in the family, and in the secular, religious and professional press, the elementary truths should be brought out so plainly and forcibly that the peril of the 'white plague' may be realized and proper precautions be taken."

50. Treatment of Infected Wounds.—Longenecker reports 3 cases of infected wounds which were treated successfully by the use of camphorated phenol. He urges its more extensive use, both in the form of an ointment and of a 50 per cent. solution.

University of Pennsylvania Medical Bulletin, Philadelphia.

April.

54 *Effect of Tuberculosis Vaccination on Cattle Infected with Tuberculosis. L. Pearson and S. H. Gilliland.
55 Study of the Pathologic Changes in Some Mound-Builders Bones from the Ohio Valley, with Especial Reference to Syphilis. S. T. Orton.
56 Studies on Cell Granula and Ameboid Movements of the Blood Cells of Limulus. L. Loeb.
57 *Nature of Paratyphoid Fever and Its Closely Allied Infections. H. Fox.

54. Effect of Tuberculosis Vaccination on Infected Cattle.—In connection with some tuberculosis vaccination experiments made by Pearson and Gilliland, the opportunity occurred to test the effect of vaccination on some young cattle already infected with tuberculosis. Twelve calves responded to the tuberculin test. They were divided into two lots of 6 each, and one of these lots was subdivided into two groups of 3 each. The 3 calves of one group were given seven intravenous injections of a standard suspension in water of human tubercle bacilli. The dosage began at 1 c.c. and was increased to 6 c.c. The intervals between the injections were from six to twenty days; the time of treatment was about three months. The 3 calves of the second group were given subcutaneous injections of tuberculin at intervals of from two to ten days until the hypersensitiveness of the animal to tuberculin had disappeared, after which the calves received an intravenous injection of a suspension of tubercle bacilli in water, when the foregoing procedure was repeated. The remaining 6 calves were given no treatment whatever, but were at all times kept with the 6 calves under treatment, so that all the 12 calves were subjected to the same condition of life and subsisted on the same kind and quantity of food. When the cattle died or were killed they were submitted to careful postmortem examination. The observations recorded show a decided difference between the lot of 6 young cattle that were treated and the 6 that were not treated. Since the two lots of animals were in all respects as nearly equal as possible at the beginning of the experiment, and since they were cared for all together and in precisely the same way, except in respect to specific treatment, it is but fair to conclude that the six treated animals were favorably influenced by the treatment. The authors have sufficient evidence to justify the statement that the treatment to which six of the animals were subjected had the effect not only of keeping in check the progress of the tuberculous process, but in causing a distinct and in some cases a great retrogression of the lesions. In other words, the treatment had a distinct curative effect. In all the treated animals the lesions were quiescent and encapsulated. But they contained living tubercle bacilli. These experiments, which were made on a few young cattle in the earlier stage of tuberculosis, do not justify conclusions or inferences as to the probable effect of similar treatment on older and more extensively diseased animals, but the authors hold that the experiments made show clearly that under such treatment as was given tuberculous lesions do not extend; on the contrary, that they recede and that new implantations do not occur even on prolonged contact with tuberculous herd mates.

57. **Nature of Paratyphoid Fever.**—Fox traces the relations of, and classifies in order, typhoid, paratyphoid, paracolon infection and meat poisoning. He concludes that paratyphoid fever differs from typhoid fever in: (a) a shorter invasion stage and rise of temperature; (b) shorter or absent periods of continued fever, and (c) marked diurnal remissions of temperature, much deeper than enteric and without periodicity. An absence of the Widal reaction is suggestive, if it persist in reasonably high dilutions. The duration is, on the whole, shorter than typhoid, and the cases where type "B" was adjudged the etiologic rôle this fact is more striking than in the type "A" cases. The general findings of the type "A" cases are nearer to typhoid than type "B", the latter presenting a picture more like septicemia. The complications of type "B" infections are more numerous, and the course is more fulminating in these cases. The causal germs belong to the intermediates of the typho-colon series, the type "A" being nearer to the bacillus of Eberth and Gaffky, while type "B" approaches the meat-poisoning group. The clinical evidences of the respective organisms just named agree with their general properies and relations to infections in this order, ranging from the subacute typhoid to the hyperacute meat-poisoning. Antityphoid serum will clump the paratyphoid "B" at the same time as the *B. typhosus*, sometimes even in higher dilutions; so that a positive reaction of a patient's serum to both *B. typhosus* and paratyphosus "B," even if the latter be in higher dilutions, will not permit a diagnosis. On the other hand, only twelve times in 94 cases of typhoid fever did the serum react with the type "A" paratyphoid; so that a positive reaction with type "A" and not with the bacillus of Eberth may be taken as nearly a proof of the existence of an "A" paratyphoid infection. That there must be some other factor responsible for coagglutinations than an increased value of the agglutinins normally present in the blood seems probable. The best proof of existence of a para infection is the isolation of the bacterium, the saturation test, and, last, the bactericidal action.

Therapeutic Gazette, Detroit, Mich.

May.

58 Treatment of Retrodisplacement of the Uterus: a Clinical Study Based on Records of 653 Cases. B. C. Hirst.
59 Pasteur Treatment for Rabies Administered at the Patient's Home. M. Solis-Cohen.
60 *Observations on Urine After Anesthesia. C. E. Goodwin, Weedsport, N. Y.
61 Diaphoresis in Treatment of Eye Diseases. H. F. Hansell, Philadelphia.

60. **Urine After Anesthesia.**—In 65 chloroform cases observed by Goodwin, the urine showed albumin or casts (or both) induced or increased after inhalation in 40 per cent. of the cases, sugar occurring in one instance. In 61 cases of anesthesia produced by nitrous oxid followed by ether, albumin and casts occurred or were increased in the urine in 12 per cent., one case showing sugar. In 41 cases of chloroform followed by ether, albumin and casts were induced or increased in 41.5 per cent. of the cases. In 28 ether anesthesias, 39 per cent. of the cases showed albumin and casts increased or present afresh after the narcosis, two cases also showing fresh occurrence of sugar in small quantities. In these cases the albumin and casts usually disappeared in a few days, though rarely they persisted for ten days. The sugar disappeared in all cases after the first day.

International Clinics, Philadelphia.

62 Treatment of Cardiac Asthma. Vol. I., Fifteenth Series. P. Merklen.
63 Treatment of Cirrhosis of the Liver, Unusual Syphilis, Tuberculosis, Suffocative Catarrh and Mucomembranous Enterocolitis. Albert Robin.
64 Therapeutic Indications in Infected Cholelithiasis. A. Chauffard.
65 Carbohydrates of Human Urine in Health and in Disease. C. Douglas.
66 The Eye and the Hand in the Diagnosis of Heart Disease. J. J. Walsh.
67 Early Diagnosis of Heart Disease in Children. J. P. Parkinson.
68 Aortic Stenosis; Adherent Pericardium. M. Manges.
69 Intestinal Adhesions and Report of a Case Illustrating Elasticity of the Hepatic Support. A. L. Benedict.
70 Skin Grafting in the Late Treatment of Severe Burns Involving Extensive Areas of Skin. A. Young.
71 Starvation of Malignant Growths by Depriving Them of Blood Supply. R. H. M. Dawbarn.
72 New Operative Method for the Total Extirpation of the Larynx. F. Durante.
73 Treatment of Knee-Joint Disease. R. A. Hibbs.
74 Treatment of Glenard's Disease. A. E. Gallant.
75 Morphinomania, Cocomania and General Narcomania, and Some of Their Legal Consequences. C. K. Mills.
76 Case of Cerebellar Tumor. J. W. Carr, London.
77 Two Cases of Ocular Palsy, in Both of which the Paralysis Was Probably Dependent on a Lesion in the Neighborhood of the Sphenoidal Fissure. E. Bramwell.
78 Anterior and Posterior Parietal Presentations of the Head in Slightly Flattened Pelves. R. Jardine, Edinburgh.

Annals of Gynecology and Pediatry, Boston.

April.

79 Case of Congenital Absence of Vagina and Uterus; Artificial Vagina; Subsequent Operation for Appendicitis. A. L. Smith, Montreal.
80 Case of Pregnancy in One Cornu of a Bicornate Uterus; Complicated Labor. F. Washburn, Jefferson, Mass.
81 Treatment of Wounds and Contusions of Pelvic Outlet Produced During Labor. J. W. P. Smithwick, La Grange, N. C.

May.

82 Pregnancy Developed in an Ante-latero-flexed Uterus, Mistaken for Extrauterine Pregnancy. Dr. G. Fleux.
83 Suprapubic Cystotomy in Children. C. G. Cumston, Boston.

The Laryngoscope, St. Louis.

April.

84 Foreign Bodies in Trachea, Bronchi and Esophagus. The Aid of Esophagoscopy, Bronchoscopy and Magnetism in Their Extraction. C. Jackson, Pittsburg, Pa.
85 Abscess of the Tongue; Report of Two Cases. F. C. Cobb, Boston.
86 Report of Case of Keratosis of Throat. H. Foster Kansas City, Mo.
87 Osteomyelitis of Temporal Bone. C. W. Richardson, Washington, D. C.
88 Aural Neuralgia of Dental Origin. G. L. Richards, Fall River, Mass.
89 Nasofibroma Treated by Injections of Monochloracetic Acid. H. Smith, New York.
90 Adenocarcinoma of Nose. Killian Operation for Radical Removal. J. McCoy, New York.
91 Case of Multiple Sinusitis Cured by the Killian and Caldwell Luc Methods. H. B. Hitz, Milwaukee.
92 Turbinectomy. D. S. Reynolds.

Medical Examiner and Practitioner, New York City.

April.

93 Insanity and Epilepsy in Relation to Life Insurance. W. R. Gowers, London.
94 Cullings from the Desk. E. H. Hammil.
95 "Plimsoll Mark" in Life-Insurance Examinations. W. H. Lawton, Philadelphia.
96 Subjective Symptoms of Importance. T. D. Davis, Pittsburg, Pa.

Chicago Medical Recorder.

May.

97 When Should a Uterine Myoma be Operated On? W. M. Thompson, Chicago.
98 Occurrence of Influenza Outside of Epidemics. J. B. Tyrrell, Alta, Iowa.
99 Sajous "The Internal Secretions and the Principles of Medicine." W. F. Waugh, Chicago.
100 Osteomalacia. C. B. Reed, Chicago.

Alabama Medical Journal, Birmingham, Ala.

May.

101 Annual Oration. S. Harris, Union Springs, Ala.
102 Jerome Cochran Lecture—The Problems of Surgery. R. Abbe, New York City.
103 Iritis. L. G. Woodson, Birmingham, Ala.

104 Contract Doctor. G. A. Hogan, Bessemer, Ala.
105 Management of Pulmonary Tuberculosis from the Standpoint of the General Practitioner. E. A. Jones, Raton, New Mexico.

Virginia Medical Semi-Monthly, Richmond, Va.

May 26.

106 Commission of Lunacy—Its Scope and Limitations. W. F. Drewry, Petersburg, Va.
107 Origin of Tuberculosis in Children. R. W. Hynds, Atlanta, Ga.
108 Eczema; Its Symptomatology, Etiology and Diagnosis. T. W. Murrell, Richmond, Va.
109 Treatment of Eczema. F. H. Beadles, Richmond, Va.
110 Symptoms and Treatment of Lobar Pneumonia. T. H. Woolsey, Greeneville, Tenn.
111 Points Out of My Own Experience in Refraction and the Fitting of Glasses. R. P. Cox, Rome, Ga.
112 Principles of Surgery. S. McGuire, Richmond, Va.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal (Educational Number).

June 3.

1 *Medical Profession Abroad.
2 *Medical Profession in Europe and the British Colonies.

1. **Medical Profession Abroad.**—In this article is presented a general view of the situation as it obtains in Europe; the training and qualification necessary to graduation in medicine; requirements for licensure; the rights and duties of practitioners; a survey of the public services; professional income; contract practice; unqualified practice; protection of professional interests; the social position of the profession, and the doctor in politics.

2. **Medical Profession in Europe and British Colonies.**—This article is a more extended discussion of the topics mentioned in the foregoing, and has reference particularly to the several countries of Europe and all the British possessions. Special attention is given to the laws relating to the practice of medicine, medical education and such other matters as are of interest to physicians.

The Lancet, London.

June 3.

3 The General Conditions of Medical Studies and of Hospital Administration in Paris; Apropos of the Visit of the British physicians to France.
4 Laryngeal Paralyses and Their Diagnostic Value. H. Barwell, London.
5 Conditions Affecting the Development of Flagellated Organisms from Leishman Bodies, and Their Bearing on the Probable Mode of Infection. L. Rogers, Calcutta.
6 *Case of Widespread Ulceration of Skin and Connective Tissue. W. B. Watson, London.
7 *Operation of Jejunostomy. Mayo Robinson, London.
8 *Second Dentition; Its Medical Aspects. H. Armstrong, Liverpool.
9 *Typhoid Fever and Pregnancy, with Special Reference to Fetal Infection. H. T. Hicks and H. French, London.
10 *Action of Yeast in Tuberculosis and Its Influence on the Opsonic Index. W. R. Huggard, London.
11 Treatment of Toxemic Symptoms in Scarlet Fever. A. K. Gordon, Manchester.
12 Innominate Aneurism; Simultaneous Ligature of Right Carotid and Subclavian Arteries. Recovery. N. N. Dunn.
13 Coexistence of Cystic Mesometrium and Tubal Pregnancy. F. J. S. Heaney, Blackpool.
14 Sanitation and the Panama Canal. J. G. Leigh.

6. **Widespread Ulceration of Skin.**—Watson reports the case of a man, aged 61, who suffered with extensive ulceration of the skin and connective tissues. Except for a somewhat severe attack of influenza 16 years previously, and of pleurisy six years previously, the patient had always been healthy. There was no personal history of sickness nor a family history of tuberculosis. The patient first noticed a small lump in the left buttock which slowly increased in size. A second lump soon appeared, a little higher than the first and nearer to the spine. Both lumps ultimately burst. Shortly afterward lumps began to form in the left groin. Recourse was had to surgical treatment, the lumps in the back and a number of enlarged glands from the groin being removed and the parts scraped. After a few months these places healed, but the disease showed itself in many other localities. The course from now on was a progressively downward one. The patient's general condition was very bad. Many of the ulcers were deep, with irregular, unhealthy looking bases. They were in varying degrees of inflammatory activity. With the presence of sinuses and numerous bunches of flabby unhealthy granulations, the lesions presented a complete clinical picture of tuberculous ulceration of the skin and connective tissue. The treatment consisted of rest in bed and abundance of good food, combined with cod-liver oil, syrup of iodid of iron in full doses, and other tonics. The ulcerations were treated antiseptically. The patient recovered and is now in excellent health.

7. **New Operation of Jejunostomy.**—The operation described by Robson consists in taking a loop of the beginning of the jejunum just sufficiently long to reach the surface without tension; the two arms of the loop are short-circuited about three or four inches from the surface, the short-circuiting being done either by means of sutures around a decalcified bone bobbin or by sutures alone. Robson prefers the former. A small incision is then made into the top of the loop just large enough to admit a No. 12 Jaques catheter, which is inserted and passed for three inches down the distal arm of the loop. This is fixed to the margin of the incision in the gut by a silk or Pagenstecher's suture, and the entrance of the tube into the bowel is further guarded by two pursestring sutures, one over the other. The top of the loop is fixed to the skin by one or two stitches and the wound is closed. The patient can then be fed at once with peptonized milk and brandy. The whole operation can be done in from fifteen to twenty minutes and with very little visceral exposure. Should the patient be too ill to bear the little extra time occupied by the short-circuiting, the tube may be inserted as directed and surrounded by two or three pursestring sutures. In this case the loop of bowel must not be brought to the skin, but would better be fixed by sutures to the peritoneal margin and the aponeurosis in order to leave part of the lumen of the attached loop within the abdomen for the direct passage onward of the intestinal fluid with the bile and pancreatic secretion.

8. **Medical Aspects of Second Dentition.**—In this article Armstrong discusses the influence of general or local disease, such as rickets, hereditary syphilis, the acute fevers, particularly measles and adenoids, as a cause of faulty dentition; faulty dentition as a cause of general or local disease, and the influence of dentition on concurrent general disease, such as hysteria, chorea and other neuroses.

9. **Typhoid and Pregnancy.**—Among the problems discussed by Hicks and French are the following: 1. Are typhoid bacilli transmitted from the mother to the fetus? In 10 cases typhoid bacilli were found in the fetal organs or blood. In 11 cases the bacilli were looked for and not found. When bacilli were found in the fetus delivery occurred late in the fever, from the third week of the disease to the twenty-fifth day of a relapse. It would seem, therefore, that the duration of the typhoid is an important factor in determining infection of the fetus. This raises the question whether, in cases where the fetus is viable, labor should not be induced as early as possible in order to save the child from infection. 2. The effect of pregnancy on the mother who has typhoid. Typhoid occurring during pregnancy does not affect the prognosis or alter the course of the disease, as was noted in 7 cases. The death rate was 14 per cent. 3. The effect of typhoid in the mother on the pregnancy. The effect of enteric fever on the pregnancy is bad. In the majority of cases abortion or premature labor takes place. The delivery is usually easy and the patient experiences considerable relief. The uterus involutes just as if there were no maternal illness. The fetus, even if viable, is often born dead or dies soon after birth.

10. **Yeast in Tuberculosis.**—For the last two years Huggard and Morland have been making systematic observations on the influence of yeast, taken internally, on tuberculosis. The cases at first selected were chronic cases in which the patient had either "stuck in the mud" or was losing ground. The results in some cases were striking, in some encouraging, in others almost *nil*. In no case was there any bad effect, but some patients left off the drug because they disliked the taste of it or thought that it disagreed with them. All the patients appeared to derive some benefit from the remedy. In most cases the downward course either became less rapid or was arrested and the stationary patients improved. On the whole, the results were good enough to lead to a more extended trial. Thirty-six patients were under this treatment for periods varying from two weeks to about one year. Besides these,

there were about six who took the remedy for less than a fortnight but who discontinued it for one reason or another, such as flatulence, dislike of the taste, or disgust at the smell of the yeast. The clinical outcome of all the observations is that some improvement was noted in almost every case in which the remedy was taken steadily for at least a month, though in many cases improvement appeared much earlier. In all but one case tubercle bacilli were present when the yeast treatment was begun. The cases were as follows: (*a*) One patient without tubercle bacilli in the sputum. (*b*) Five patients in whom tubercle bacilli disappeared and the disease became seemingly arrested while under yeast treatment. (*c*) Seven patients in whom the disease is tending toward arrest, but in which tubercle bacilli have not yet disappeared. (*d*) Eleven cases of medium severity and of doubtful prognosis, the patients either losing ground or barely holding their own when the yeast was begun. All but one patient improved more or less; 7 improved both locally and generally; 2 improved generally but not locally; 1 remained practically unchanged both generally and locally, though the opsonic index rose; in one renal tuberculosis and albuminuria were found. In 6 of the cases there was a diminution of tubercle bacilli; in three of the cases an increase; and in two cases the numbers were unchanged. In two cases renal as well as pulmonary tuberculosis was present. In one tubercle bacilli have now almost disappeared. In the other of these two cases there was laryngeal as well as pulmonary tuberculosis and during the yeast treatment renal tuberculosis and albuminuria were discovered after the appearance of gouty pains in the joints of the hands and feet. The patient felt well and seemed in better health than previously. The state of the lungs and of the larynx improved at the same time. (*e*) Twelve advanced cases of bad prognosis, nine of the patients with more or less pyrexia. All appeared to benefit in general health to some extent, at least for a time. Seven improved considerably in local as well as in general condition and show some promise of reaching a stage of tolerance or quiescence. In two there was no material change in the local condition. In one case excavation which had already been extensive seemed to go on even more rapidly, in spite of some improvement in the general health. Two of the patients died subsequently.

As regards the general effects of the yeast, some patients did not notice any influence whatever. Some felt a sense of well-being; two or three had a feeling of exhilaration. Several patients said that their appetite and digestion were better on taking yeast. A few complained of flatulence, less noticeable or absent when the yeast was taken on an empty stomach. Two or three patients said that under its use the bowels acted more regularly. Two or three patients found that owing to the taste or smell it caused a feeling of nausea or disgust and in these cases it was of course dropped at once. In two or three cases gouty or rheumatic pains were complained of after yeast had been taken for some little time. The discovery of albuminuria with renal tuberculosis in one individual who was taking yeast led to an examination of all the other patients available but in one was there any evidence of renal irritation, though one f these cases a little time before beginning the yeast treatment had had albuminuria with granular casts and another also had well-marked renal tuberculosis before the treatment was begun. Yeast did not appear to have any influence on the temperature of patients suffering from a febrile tendency. Influenza in a mild form occurred in two or three patients while they were taking yeast, which therefore can hardly be looked on as a preventive.

Bulletin de l'Académie de Médecine, Paris.

15 (Year LXIX, No. 21.) *Extraction of Foreign Body in Esophagus.—Traitement des corps étrangers de l'œsophage. Suarez de Mendoza.
16 *Sur l'emploi des rayons Roentgen. Debove.
17 *Poison in Stings of Bees, Wasps, etc.—Le venin des hyménoptères. P. Fabre.

15. **Extraction of Foreign Body in Esophagus.**—Mendoza uses the Graefe basket as a rule, but when impossible to introduce it on account of spasmodic contraction, he precedes it with the Collin-Verneuil instrument. This dilates the esophagus, after which it is generally easy to insert the Graefe basket and to extract the foreign body. If even this proves unsuccessful, the Tarnier bag can be introduced. By distending the walls it releases the impacted foreign body and allows its extraction without injury to the tissues.

16. **Application of Roentgen Rays.**—Debove reported to the *Académie* the resolution adopted by the recent Roentgen Congress at Berlin, which urged that the use of the Roentgen rays belongs exclusively to the medical domain. He advocated the appointment of a committee to study the subject and to report as to whether the public authorities should interfere to restrict the use of the Roentgen rays for diagnostic and therapeutic purposes to the medical profession alone. A committee was appointed in accordance with his suggestion, consisting of himself, Brouardel and seven others.

17. **Poison of Bee, Wasp and Hornet Stings.**—Fabre relates about a dozen cases of stings followed by severe general symptoms, fatal in some instances. The symptoms involve the respiratory, digestive, nervous and secretory systems, and are distinguished by the rapidity with which they develop and their intensity. The action of the poison of the hymenoptera is frequently more subtle and generally more rapid than that of snake or viper venom, which it resembles in many respects. Antivenin might be used if the symptoms did not develop with such rapidity. The most effectual treatment is by aiding nature to eliminate the poison through the sweat, urine, saliva and feces. Her efforts in this direction are plainly evident in the symptoms observed, and the physician should coöperate by administering diffusible stimulants, diuretics, sialagogs and purgatives. Experimental and clinical experience seems to indicate that the kidneys are the chief emunctories concerned. Among the general symptoms cited in the cases he describes are edema suggesting erysipelas, eruptions, syncope, nausea, vomiting, diarrhea and irregularities in the pulse. Local treatment should be by the immediate application of lime water, salt or strong brine, supplemented by a hot aromatic drink containing some diffusible stimulant such as ether or peppermint, to favor the elimination of the venom through the skin and kidneys. Vinegar water or ammonia usually neutralizes bee stings. The little blister formed by the clear venom deposited by the insect should be carefully removed without extracting the sting beforehand and without the slightest pressure on the latter, as this would merely squeeze out more of the venom. Attempts to induce immunity by submitting to the stings of bees have been successful in some instances to a certain extent.

Presse Médicale, Paris.

18 (No. 38, May 13.) *Techniq [illegible] A. Broca.
19 (No. 39.) *Sudden Death in [illegible] La mort brusque dans le [illegible] Gouget.
20 (No. 40.) *Le tabes infantile juvenile. E. Hirtz and H. Lemaire.
21 *Le pronostic de la pneumonie chez l'enfant (in children). E. Terrien.
22 (No. 41.) La dysentérie bacillaire a Bordeaux. B. Auche.
23 Obstétrique et medicine légale. O. A. Lop.
24 Stains for Spirilla.—Techniques pour la coloration des spirilles.
25 (N [illegible] Symphyseotomy.—La section latérale [illegible] après les résultats fournis par 90 [illegible]
26 T[illegible] Royat in Heart Affections.—Traite[illegible]rdiaque par les bains carbo-gazeux de Royat. [illegible]
27 (No. 43.) *Syphilis congénitale et Spirochaete pallida Schaudinn. C. Levaditi.
28 140 nouveaux cas de rachi-stovainisation. L. Kendirdjy and V. Burgaud.
29 Atrophic Alopecia.—La pseudo-pelade. L. M. Pautrier.

18. **Technic of Plastic Operations on Palate.**—Broca describes with nine illustrations the details of these operations as he has performed them on 140 patients. He says that he has not invented anything new, but by combining the suggestions of others is able to perform the operation rapidly, safely and thoroughly. In the last 110 cases there has been no mortality, and only 2 deaths occurred in his entire experience, and these before 1895.

19. **Sudden Death in Acute Articular Rheumatism.**—Death may occur abruptly during acute articular rheumatism from cerebral manifestations, from syncope, from orthopnea and subacute asphyxia or from obliteration of the mitral orifice by a thrombus. Gouget describes a case of the latter kind,

with the autopsy findings. Old endocarditic lesions had evidently favored the development of the thrombus. The patient had had previous attacks of acute articular rheumatism; each accompanied by hemoptysis, probably from embolism or merely from the congestion in the lungs The weakness of the heart and the excess of fibrin in the blood, which is the rule in rheumatism, evidently co-operated in the fatal result. Gouget has collected from the literature 9 cases of death from syncope or subacute asphyxia in the early stages of acute articular rheumatism; 6 were in women and 3 in men. This proportion of two-thirds women to one-third men is the same as was observed in the 30 cases of malignant rheumatic endocarditis. The 2 cases of "brain rheumatism" which he mentions both occurred in hard drinkers. Death from syncope may occur during convalescence, and is generally preceded by some effort. The cavities of the heart are much dilated in this case. When death is due to subacute asphyxia, the autopsy reveals either acute pulmonary edema or embolism or intracardiac thrombosis.

20. **Infantile Juvenile Tabes.**—Hirtz remarks that no report is on record of the postmortem findings in this affection, although he has found 47 cases described in the literature. The first manifestations are, in order of frequency, incontinence of urine, lightning pains, amblyopia and gastric crises. The first of these symptoms was noted as the initial one in about half the cases on record, and amblyopia in about 14 per cent., with lightning pains in less than 33 per cent. Amblyopia became superposed on other symptoms in about 36 per cent. Experience has shown that the tabes of these young patients remains mild and develops extremely slowly.

21. **Prognosis of Pneumonia in Children.**—Terrien reports 2 cases of sudden death in the course of pneumonia in an infant and in a girl of 10. Evidences of purulent pericarditis were discovered in the first case, but no cause for the death could be detected in the second except acute and rapid dilatation of the heart. The child had entered the hospital on account of moderate chorea ten days before the first symptoms of the apparently mild pneumonia were noted. He refers to similar cases that have been published in which previously healthy children died suddenly in the course of an apparently mild pneumonia of the right apex. Extrapulmonary localizations are frequent in pneumonia, but sudden or rapid death is liable to occur at any age, with or without extrapulmonary localizations. Cyanosis is generally the first sign of impending danger, whether it is the indication of some pericardial localization or merely of simple, acute dilatation of the heart.

25. **Extramedian Symphyseotomy.**—Gigli's method of lateral section of the pubis, pubotomy or hebotomy, as it is variably called, has now been performed in 90 cases in which a contracted pelvis required symphyseotomy or its equivalent. The surgical wound healed by primary intention in every instance, even when there was puerperal infection. The list of operators includes Berry Hart of Edinburgh, Canton of Buenos Ayres, Döderlein of Tübingen, Fleischmann of Vienna, Hofmeyer of Würzburg, Leopold of Dresden, Meyer of Copenhagen, Meurer of Amsterdam, Tauffer of Budapest, Van do Velde of Harlem, von Franqué of Prague, Walcher of Stuttgart and Zweifel of Leipsic, besides 14 prominent Italian and several French accoucheurs. The operation and its results have been duly chronicled in THE JOURNAL, as for instance on pages 1426 and 1909 of volume xliii. It was rendered possible by the invention of the Gigli wire saw. The wound is in the bone, outside of the joint, and has none of the drawbacks of interference with an articulation, while it has all the advantages and more of symphyseotomy, Gigli claims.

27. **Congenital Syphilis and the Spirochaete Pallida.**—Levaditi reports 3 cases of congenital syphilis in which the *Spirochaete pallida* was discovered in the cutaneous lesions and in the organs of new-born infants. Control research on other infants was invariably negative. The spirochaetes were found in the first infant in the vesicles of hereditary syphilitic pemphigus and in incipient cutaneous papules. In the second infant they were found in the papules, in the spleen, lung and liver, and in the third in the pemphigoid lesions, spleen and liver.

Revue de Médecine, Paris.

Last indexed XLIV page 852.

30 (XXIV, No. 7.) Des variations du poids au cours de la variole (variations in weight). M. Garnier and G. Sabaréanu.
31 Loss of Muscle Sense in Fingers of Both Hands with Intact Sensibility of Muscles of Hand and Forearm.—Perte du sens musculaire aux doigts. etc. Bouchaud. (Concluded from preceding volume.)
32 Observation de tremblement hystérique. C. Boucarut.
33 (No. 8.) *Anémie dite pernicieuse progressive; 3 cas. P. E. Launois and P. E. Weil.
34 Etude des inversions viscérales. V. LeGoic.
35 *Variations de la tension artérielle dans la fièvre typhoide chez l'enfant (in children). G. Carrière and C. Dancourt. (Commenced in No. 7.)
36 (No. 9.) Cas de syringomyélie et syringobulbie. Dégénération du ruban de Reil. S. A. K. Wilson, (Edinburgh).
37 Essai sur la physiologie pathologique du mouvement. Disparition des mouvements dans la chorée chronique. N. Vaschide and C. Vurpas.
38 Les échanges osmotiques en biologie (interchanges). M. Labbé.
39 (No. 10.) Les lacunes de désintégration cérébrale. G. Catola.
40 2 observations d'ictère chronique familial avec splénomégalie. L. Lortal-Jacob and G. Sabaréanu.

33. **Progressive Pernicious Anemia.**—In the 3 cases described the morbid substance causing the trouble seemed to have a destructive action on the reds and an invigorating action on the white corpuscles. No infection or intoxication could be found to account for this except possibly syphilis in one case. Mercurial treatment failed to influence the anemia, and no benefit was derived in any instance from iron, arsenic and marrow organotherapy.

35. **Blood Pressure in Typhoid Fever.**—In the 41 children examined the blood pressure was always below normal, and likewise in grippe and in tuberculous meningitis, but not in 2 cases of acute osteomyelitis. The pressure was normal or slightly above in acute meningitis, in "meningism," and also in endocarditis, otitis, pneumonia, etc. In typhoid in children the blood pressure is absolutely and relatively much lower than in adults, although, exceptionally, hypertension may prevail. The blood pressure has no diagnostic or prognostic importance in typhoid fever in children, but it reveals an impending or present complication. A hemorrhage is preceded by an unusually high pressure, which also accompanies congestions, especially congestion of the lungs. It may likewise be the precursor of violent delirium or of endocarditis. The blood pressure is not influenced by gastrointestinal troubles nor by the development of an abscess nor by an intercurrent infection or aortic lesion.

Archiv f. klinische Chirurgie, Langenbeck's, Berlin.

Last indexed XLIV, page 1568.

41 (LXXVI, Nos. 1-[illegible] *[illegible] suchungen zur Physiologie und [illegible] P. Clairmont and H. Haberer [illegible] enna).
42 *Zur Behandlung der diffusen eitrigen Peritonitis. P. Clairmont and E. Ranzl (ibid).
43 *Ueber postoperative Magen- und [illegible] orrhages in stomach and intestines).
44 Bericht über 258 von Prof. v. [illegible] Magen- [illegible] omach). P. Clairmont (ibid).
45 *[illegible] mit bes. Berücksichtigung von Dauer- [illegible] results). H. Haberer (ibid).
46 *[illegible] Dauer- [illegible]
47 *[illegible] der [illegible] (Apposition end-to-side, [illegible]
48 Tied-off Intestine as Content of Femoral Hernia.—Abgeschnürter Darm als Inhalt einer Hernia ischiadica. v. Eiselsberg.
49 Diverticula in Bladder.—Zur Therapie der Blasendivertikel, nebst Bemerkungen über Complication derselben. G. A. Wagner (ibid).
50 Zur Casuistik der Knochen-Cysten (of bones). H. Haberer (ibid).
51 (No. 3.) *Die Unterbindung der Aorta, ihre physiologische und ihre therapeutische Bedeutung (ligation of aorta). M. Katzenstein.
52 Die Luxatio ossis lunati volaris eine Luxatio ossis capitati dorsalis. Lilienfeld.
53 *Zur Kenntniss der Hoden-Embryome (of testicle). A. Müller (Basle).
54 Zur Ranula-Frage. K. Förstering [illegible]
55 *Indicationen und Methoden der [illegible] krebses (laryngeal cancer). E. [illegible]
56 Ileus and Volvulus with Movable [illegible] lon.—Die anatomische Form des Volvulus und Darmverschlusses bei beweglichem Coecocolon ascendens. G. Ekehorn (Sundsvall).
57 *Werth der Kryoskopie für die Nieren-Chirurgie (of kidneys). O. Rumpel.
58 *Justification of Early Operative Intervention for Subcutaneous Fractures of the Bones. Fritz König (Altona).
59 *Lymph-angiectasia in the Groin and Other Results of Stagnation of Lymph.—Die Lymphangiectasie der Leiste und andere Folgeerscheinungen der Lymphstauung. H. Gross.
60 Hemolysins in Severe Burns.—Verhalten der Hämolysine bei schweren Hautverbrennungen. H. Doering (Göttingen).

41. **Physiology and Pathology of Peritoneum.**—The ability of the peritoneum to protect itself has been exhaustively studied by Clairmont and Haberer on rabbits. About 10 c.c. of a 2 per cent. solution of potassium iodid was injected directly into the peritoneum without previous incision. The results have convincingly demonstrated, they think, that moist eventration and rinsing is not only the best means of preventing, but also aids in curing peritonitis. The favorable effects were evident whether the peritoneum was normal or already inflamed. In regard to leucocytosis and phagocytosis there did not seem to be much difference between irrigated and dry operations. Eventration can not be done without an abundant emigration of leucocytes. They display at first an energetic phagocytosis, but this soon subsides and finally sinks considerably below normal. Their experiments confirmed their former assertions in regard to the way in which increased peristalsis after administration of a little physostigmin hastens peritoneal absorption, and that sterile fluids injected into the peritoneum do not check absorption. In incipient peritonitis absorption proceeds more vigorously at first but later becomes very sluggish. A moist laparotomy has much less disturbing effect on the processes of absorption than dry laparotomies. In the latter there is venous hyperemia and the peristalsis is arrested; this does not occur when the peritoneum is irrigated. Transudation in the abdominal cavity is not materially affected by a laparotomy. The active hyperemia which accompanies the inflammation is the cause of the rapid absorption at first. The intensity of the inflammation depends on the virulence of the germs more than on all the other conditions combined. In regard to the benefits of rinsing after laparotomy, the peritoneum of the rinsed animals was invariably found in much better condition than in the controls. Eighty-seven rabbits and guinea-pigs were infected with pus of a standard virulence, laparotomized after an interval of from ten minutes to ten hours, and the peritoneum was then rinsed without tamponing. The animals all died, some of them even earlier than the controls, but the peritoneum was always in a much better condition than in the controls. There was none of the turbid effusion nor fibrinous deposits on the intestines nor loose adhesions between them. Scarcely a trace of inflammatory changes could be detected. In a further series of ten experiments diphtheria toxin was injected into the peritoneum and it was then rinsed out. Twenty times the fatal dose could thus be injected and rinsed out again without the slightest symptoms, while all the controls died with the typical syndrome.

42. **Treatment of Diffuse Suppurative Peritonitis.**—The lessons learned from 41 cases during the last three or four years are that operative treatment is indicated in all cases of diffuse peritonitis, even in the advanced stages. Immediate laparotomy is the only treatment, and the chances are better the earlier it is done. Incision on the median line is preferable unless the starting point is clinically demonstrable. The infectious agents and the exudate are best removed by copious irrigation with salt solution, with partial eventration of the intestinal loops. The abdomen should not be closed entirely; extensive tamponing is preferable. Jejunostomy is indicated in case of perforation of stomach or duodenum by an ulcer or cancer. Copious saline infusion is the main point in the after-treatment. The cases are classified and the histories related in detail.

43. **Postoperative Gastrointestinal Hemorrhage.**—Busse describes 14 cases of bleeding in the stomach or duodenum after an operation, and reviews 82 similar cases collected from the literature. The operations were chiefly laparotomies, but the hemorrhages occurred after operations almost anywhere on the body. The literature is extensively analyzed. The prognosis of these postoperative hemorrhages is grave, fully 55 per cent. of the patients having succumbed in consequence. The mortality in the last series of 14 cases was only 21 per cent., while Purves has reported a mortality of 72.5 per cent. Besides the usual symptomatic measures, gelatin, by the mouth or subcutaneously, and saline infusion have proved useful. Direct or retrograde thrombosis in the arterial or venous domain is probably the explanation of these postoperative hemorrhages. Several factors evidently co-operate with the effects of the operation, local or general disturbances in the circulation, the composition of the blood, trauma from the intervention, the effects of the anesthetic, and also nervous influences. The hemorrhage generally recurs several times, and usually appears during the first week. Erosions and ulcerative processes are sometimes found in the stomach or intestines, but not invariably.

45. **Value of Jejunostomy.**—In 115 pages Lempp proclaims the great advantages of jejunostomy, and discusses the indications for it as learned in an experience of 68 cases in which this operation has been performed during the last ten years. The technic was Eiselsberg's adaptation to the jejunum of Witzel's obliquely embedded tube. It is a simple operation, while it insures complete continence for fluids, and the fistula closes spontaneously when its purpose has been accomplished and the drain holding it open is removed. One of its great advantages is that the patient can be well nourished until normal conditions can be restored. This is particularly important in case of ulcer. The entire stomach region is left at rest and all mechanical demands on the stomach are avoided, and the simple operation can be done under local anesthesia alone. The various indications for jejunostomy are formulated. Among them is extensive injury from swallowing a caustic. If the stomach is much inflated, jejunostomy should be done at once, followed by the first step in gastrostomy, thus relieving the stomach by opening it. The jejunostomy is only temporary in these cases. In case of cancer, he advises exclusive rectal feeding for several days, in order to determine whether exclusion of the stomach has any influence on the symptoms, especially on the pain. If not, then jejunostomy would probably be useless.

46. **The Appendix Question.**—Haberer's article is based on 213 cases. He states that 40 out of 96 patients on whom an "interval operation" was performed have more or less severe disturbances still persisting In some they take the form of obstinate constipation, in others of severe pains, even colics, such as they had experienced before surgical intervention. The wounds had healed by primary intention in the majority of these cases. Among 22 patients who absolutely refused operation, 10 were found at a late date perfectly healthy.

47. **End-to-Side Anastomosis.**—Haberer has been experimenting to learn the best technic for end-to-side anastomosis. He found that much better results were obtained when the free margin of the mesentery was fastened to the under surface of the mesentery of the next loop.

51. **Ligature of Abdominal Aorta.**—Katzenstein says that this operation has been done fourteen times to relieve a peripheral aneurism. It makes great demands on the heart and has never been successful. Collateral circulation soon developed, annulling the benefits of the ligation. The great number of communications with the general circulation render the establishment of collateral circulation inevitable. Its development, however, requires extra work on the part of the heart, thus inducing considerable hypertrophy. In the absence of general atheromatosis of the vessels and if the operation is technically possible, extirpation of the aneurism may be successful. In 10 of the 14 cases on record death was the direct result of the operation.

53. **Embryoma of Testicle.**—Müller's patient was a child of 2. In only a single case on record was the patient an adult. In some instances the embryoma was congenital; in others it developed very slowly in the course of a few months to twenty years. Malignant degeneration was never observed in any of them. Embryoid tumors of the testicles are much more frequent, and 90 per cent. occur after puberty. They generally grow rapidly, sometimes first noticed after a trauma. Malignant degeneration is not uncommon, generally of a sarcomatous nature. The true embryoma, with its predominating ectodermal elements, is much rarer. Müller analyzes the publications on the subject.

55. **Laryngeal Cancer.**—Navratil classifies the various technics for removal of a cancer in the larynx, with the indications calling for each. He illustrates his remarks by the results in a number of clinical cases.

57. **Value of Cryoscopy.**—Rumpel protests against Rovsing's disparaging remarks in regard to cryoscopy (page 915, vol. xliv), maintaining all his previous assertions in respect to its great diagnostic importance, as experience has corroborated them in every partcular.

58. **Early Operative Intervention in Subcutaneous Fractures.**—König makes an earnest plea that operative measures should be contemplated from the very first in certain forms of uncomplicated fractures. They are the only means sometimes to insure good functional results, while in other cases they improve the chances and materially simplify treatment. When done at once, the conditions are exceptionally favorable, while the prospects are much less promising after an interval has elapsed. In 18 illustrations and 5 skiagrams he shows the mechanism of healing after operative intervention, and the excellent results, while the abnormal conditions in the patients not operated on prevent proper healing and interfere with function later. He does not advocate surgical treatment of all cases, but only that it should be duly considered in every case from the very first.

59. **Lymphangiectasia and Lymph Congestion.**—Gross states that the present article is the first of a series on the subject of the enlargement of the lymphatics under various influences, especially congestion of the lymph. This article deals with the French conception of what is called adenolymphocele, which is directly opposed to the German conception of lymphangiomata. The monograph contains illustrations of the varicose lymphectatic processes in the varicose groin glands in question. It is based on data personally collected in Paris with the co-operation of leading French surgeons. He hints that race prejudice has biased the views of the French in regard to this lesion.

Deutsches Archiv f. klinische Medizin, Leipsic.

Last indexed XLIV, page 1723.

61 (LXXXIII, Nos. 1-2.) *Ueber Diabetes insipidus und andere Polyurien. E. Meyer (Müller's clinich, Munich).
62 Proportionate Hypertrophy in Rabbit Heart in Experimental Tricuspid Insufficiency.—Ueber die Massenverhältnisse des Kaninchenherzens bei experimentell erzeugter Trikuspidalinsufficienz. E. Stadler (Leipsic).
63 *Enterogene Cyanose. A. A. Hijmans v. d. Bergh (Rotterdam).
64 New Formation of Glycogen in Rabbits.—Ueber die Neubildung von Glykogen bei glykogen-freien und auf Karenz gesetzten Kaninchen. Rolly (Leipsic).
65 *Protracted Fever of Obscure Origin.—Ueber langdauernde Fieberzustände unklaren Ursprungs. P. Krause (von Strümpell's clinic, Breslau).
66 Fall von traumatischer Geburtslähmung (birth paralysis). F. Herzog (Budapest).
67 Racial Differences of Typhoid Stems. Inhibiting Bodies in Serum and Agglutination Test.—Ueber Rassenunterschiede von Typhusstämmen, und über Hemmungskörper im Serum in ihrer Bedeutung für die Gruber-Widal'sche Reaktion. W. Falta and C. T. Noeggerath (Basle).
68 *Bakteriologische Untersuchungen bei gonorrhoischen Allgemeininfektionen (general infections). A. Prochaska (Eichhorst's clinic, Zurich).
69 Albuminurie bei Abdominal-Typhus. K. Stolte (Strasburg).

61. **Diabetes Insipidus.**—Meyer analyzes a number of cases of various affections suggesting diabetes insipidus. He believes that it is possible to distinguish the latter from primary polydipsia and from the polyuria accompanying interstitial inflammatory and pyelitic processes. True diabetes insipidus is the result of some functional disturbance in the kidneys. This disturbance is probably a lack of concentrating power. There is no retention of urine-making substances, the molecules and ions correspond entirely to normal, but the inability to produce a concentrated urine compels the elimination of a larger amount of water to dissolve and to wash out the urine-making substances. This drains water away from the system in undue amounts, and if the intake is likewise restricted serious trouble is liable to follow. The disturbance in the kidney functioning is probably of nervous origin; the majority of cases have occurred after some cerebral lesion, a meningitis or neoplasm. True diabetes insipidus can be differentiated by the behavior after increased intake of salts. Patients with primary polydipsia display the normal power of eliminating a concentrated urine under these circumstances, which is not the case in diabetes insipidus. The latter is further distinguished by the fact that while it shares with interstitial and pyelitic processes the inability to produce a concentrated urine, yet the amount of concentration of the urine is much more constant and the substances in solution are eliminated much more promptly and more regularly. Theocin has the effect of raising the concentration in diabetes insipidus without increasing the amount of urine. Phosphoric acid ingested in the form of sodium phosphate is eliminated in both normal conditions and in diabetes insipidus without increasing the amount of urine.

63. **Enterogenic Cyanosis.**—Stokvis and Talma have reported within the last three years four cases of what the former first described as "autotoxic, enterogenic cyanosis." Bergh has two similar cases now under observation, one a boy of 9, the other a young man. In the first patient the spectrum showed the bands of sulpho-hemoglobinemia, while in the second patient the bands exhibited true autotoxic methemoglobinemia. The cyanosis was intense in both cases, but varied in intensity at times, and differed from the cyanosis of carbonic acid intoxication in being more of a violet tint. Both patients had severe intestinal catarrh, but nothing to indicate a cardiac defect. The characteristic spectra in each could be seen in the living subject by applying the spectroscope to the anterior surface of the ear with an incandescent electric light behind the ear. The cyanosis subsided as the intestinal troubles were treated.

65. **Protracted Fever of Obscure Origin.**—Krause emphasizes the great value of bacteriologic examination of the blood in such cases. It may reveal general infection with streptococci, with the typhoid, colon, pyocyaneus or other bacteria, or with the gonococcus or proteus. In one of the cases described from his experience, he was able to diagnose by this means as a proteus general infection a remarkable case of fever of the recurring type which had long puzzled observers. He also calls attention to the possibility of a tertiary syphilis as the cause of a protracted febrile condition. Another case is described in detail in which bacteriologic examination of the blood and of the organs after death was negative and nothing definite could be found to explain the nine months' fatal febrile affection. From eight to twelve years previously the patient had had gonorrhea, articular rheumatism and malaria. The blood and organs examined were always sterile. Krause writes the article to reassure other physicians, when they encounter similar puzzling cases, as others have the same experience occasionally. Heubner has related the case of a man of 40 who had an intermittent fever for three months without an appreciable organ affection or much impairment of his general health. It finally vanished spontaneously in the course of a year or so. Bozzolo's address on this subject was reviewed in The Journal, vol. xliii, page 1731.

68. **Gonorrheal General Infection.**—Prochaska's six cases illustrate the multiplicity of the affections liable to follow gonorrhea, and also demonstrate the importance of the gonococcus in pathology. In one case there was a painful arthropathy in the knees and an eruption suggesting erythema nodosum. In three other cases there was endocarditis and polyarthritis, in another case a purulent meningitis, and in another the symptoms indicated severe sepsis without localization in any organ.

Münchener medizinische Wochenschrift.

70 (LII, No. 18, May 2.) Importance of Fat Metabolism for Production of Milk, etc.—Die Bedeutung der Fettsynthese, Fettphagozytose, Fettsekretion und Fettdegeneration für die Milch-und Kolostrumbildung. J. Arnold.
71 Die Bedeutung der optischen Emmetropierung für die Behandlung der Kurzsichtigkeit (in treatment of myopia). Pfalz.
72 Zur Frage nach dem Wesen der progressiven Myopie. Seggel.
73 De[illegible] v. Holst.
74 Se[illegible] thalmic Goiter.—[illegible] Krankheit mit Psychose. G. Lomer.
75 Zur Serumbehandlung des Morbus Basedowii. R. Durig.
76 Human Skin and Electricity.—Menschliche Haut und Elektrizität. O. Neustätter.
77 Ueber Anchylostomiasis. A. Tenholt.
78 Eine bequeme und einfache Irrigationsspritze für die Kinderpraxis (syringe for children). Paffenholz.
79 Importance of Roentgen Picture for Orthopedics.—Die Bedeutung des Röntgenbildes für die Orthopädie. F. Lange. (Commenced in No. 17.)
80 Weitere Erfahrungen über Appendizitis mit besonderer Berucksichtigung der Frühoperation (early operation). H. Doerfler.

Sei-I-Kwai, Tokyo.

Last indexed XLIV, page 335.

81 (XXIV, No. 1.) *An Endemic Disease from Special Parasite Previously Unknown in Japan. Katsurada. (Commenced in preceding volume.)

82 (No. 2.) *Leading Cases of the Wounds Inflicted in the Japan-Russia War. Surgeon-General Totsuka.
.83 (No. 3.) *The Operating Method of the Bullet Wound Aneurism. T. Kikuchi, Surgeon General, J. I. A.

81. **Endemic Disease from New Parasite.**—Katsurada found the eggs of a trematode in the liver and stools of several cases of the disease described. Also in the liver of a cat from the same district. The disease has long been known in this region, and Katsurada had opportunity to examine from 30 to 54 cases every year while stationed there from 1899 to 1903. Only from 3 to 5 of his patients succumbed annually to its direct ravages, but the indirect mortality was very much larger. Defective physical development is the rule after it attacks a child. Diarrhea is the first symptom, with anemia and ascites later, but the most striking feature is the shape the trunk assumes. The hypogastric region seems to shrink while the epigastric region enlarges. A transverse furrow forms directly above the umbilicus, and the general appearance of the abdominal region resembles that of an inverted gourd. This dilatation of the epigastric region and of the lower part of the thoracic cavity is noted even in those patients whose liver and spleen are not much enlarged. Eggs of tricocephalus dispar, ankylostoma and ascaris were found in the stools besides the eggs of the special parasite. The mother parasite and some eggs were found in the branches of the portal vein. It resembles the male distomum. Specimens of tenia were also found in the cat's intestines. The water standing in the rice fields in summer in this endemic region becomes covered with bubbles. When these bubbles break on contact with the skin there is itching and an eruption follows. Katsurada is convinced that there is some connection between this water-bubble eruption and the liver disease, as such parasites are liable to invade the organism through the skin, especially when their penetration is favored by an eruption. In places where artesian well water is drunk and people refrain from wading in the bubble-covered water the disease is becoming much less frequent.

82. **Shell Wounds During the War in the East.**—Totsuka casually refers to the war as "a lamentable and regretful event, but," he continues, "Japan could not help appealing to arms for the sake of humanity and the peace of the Orient." He then proceeds to discuss various aspects of the severe wounds with loss of tissue which are the results of explosion of torpedoes or shells. He has compiled and classified such as came under his observation during naval engagements, and here presents the first installment. It comprises the cases of wounds of the head from fragments of shells with fracture of the skull. In the first of the six cases described, an irregular. mutilating wound left of the sagittal suture in the center of the parietal region was still suppurating when first seen, eleven days after the injury. An elliptical depression was discovered and a piece of shot found in it was removed with the fragments of bone. The upper longitudinal sinus had been compressed by them, and there was much venous hemorrhage when the clot was removed; this was stopped with dry gauze. The skin flaps were sutured over the gauze, and a pressure bandage applied. The wound rapidly healed and no symptoms of irritation of the brain or meninges developed at any time. Another patient still exhibits marked aphasia although his extensive injuries have all healed. In another, a fatal case, the brain was found a semi-fluid after a shell wound in the forehead. Another patient exhibited a curved lacerating wound 14 cm. long, from which the scalp hung down in a flap, and the greater part of the frontal and part of the parietal bones were fractured with a 3 cm. depression. The bone plate under the skin flap seemed to have lost an area nearly as large as a goose egg. The scalp was rather depressed and the first-aid surgeon had made a crescent-shaped incision on both sides of the wound to facilitate extraction of bone splinters. The man was unconscious for three days, but then the wound took a favorable turn and no further brain disturbances were noted. Convalescence is progressing fast.

83. **Bullet Wound Aneurism.**—By this term Kikuchi refers to the arteriovenous aneurism developing from a bullet wound. In 20 such cases under his observation during the last year the femoral artery and vein were involved in 8, the popliteal in 5, and the posterior tibial in 1. The others were in the arm. Instead of tying the injured vessels outside of the aneurismal sac, he ligates the injured part of the vessels inside the sac. This is a very simple and rapid operation; the loss of ramifying vessels is reduced to the minimum; local anesthesia generally is sufficient for the purpose, and the loss of tissue and consequent obstruction of circulation is much less than by the ordinary technic. He first applies a tourniquet to the limb; then the aneurism is amply incised, the clots removed and the sac wiped clean. The bullet hole is found where the vessel meets an imaginary line drawn through the entering and exit holes. In case of doubt a bougie may be passed through it. The vessel is then detached and tied close to the hole, and the small part containing the hole is excised. The tourniquet is then removed, and, if no blood oozes, an iodoform sponge is inserted. The muscles and skin are then sutured in tiers and a bandage applied.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A MANUAL OF MIDWIFERY FOR STUDENTS AND PRACTITIONERS. By H. Jellett, B.A., M.D., F.R.C.P.I., L.M., with the assistance in special subjects of W. R. Dawson, M.D., F.R.C.P.I., Medical Superintendent Farnham House, Dublin; H. C. Drury, M.D., F.R.C.P.I., Physician to Sir Patrick Dun's Hospital, Dublin; T. G. Moorhead, M.D,. Physician to the Royal City of Dublin Hospital, Dublin; R. J. Rowlette, M.D., Pathologist to the Rotunda Hospital and to Dr. Stevens' Hospital, Dublin. With 476 Illustrations. Cloth. Pp. 1158. Price, $5.50. New York: William Wood & Co.

HEALTH AND DISEASE IN RELATION TO MARRIAGE AND THE MARRIED STATE. A Manual Contributed to Privatdocent Dr. med. G. Abelsdorff, Privatdocent Dr. med. L. Blumreich and Others. Edited by Geh. Medizinalrat Prof. Dr. H. Senator and Dr. med. S. Kaminer. Only Authorized Translation from the German into the English Language, by J. Dulberg, M.D., Manchester, England. Vol. I-II. Cloth. Pp. 498 and 1257. Price, $8.00. New York: Rebman & Co.

MALARIAL INFLUENZA AND DENGUE. By J. Mannaberg and Dr. O. Leichtenstern. Edited with Additions by Major R. Ross, F.R.C.S., J. W. W. Stephens, M.D., D.P.H., and A. S. Grunbaum, M.D., F.R.C.P. Authorized Translation from the German, Under the Editorial Supervision of A. Stengel, M.D. Cloth. Pp. 769. Price, $5.00 net. Philadelphia: W. B. Saunders & Co. 1905.

THE DIAGNOSIS OF DISEASES OF WOMEN. A Treatise for Students and Practitioners. By P. Findley, B.S., M.D. Second Edition. Revised and Enlarged. *Illustrated; 222 Engravings in the* Text and 69 Plates in Colors and Monchrome. Cloth. Pp. 588. Price, $4.75. Philadelphia: Lea Brothers & Co. 1905.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advance Discoveries and Improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, assisted by H. R. M. Landis, Vol. II, June, 1905. Paper. Pp. 346. Quarterly. Price, $6.00 a year. Philadelphia: Lea Brothers & Co. 1905.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By L. A. Stimson, B.A., M.D., LL.D. Fourth Edition. Revised and Enlarged. With 331 Illustrations and 46 Plates in Monotint. Cloth. Pp. 844. Price, $5.00 net. Philadelphia: Lea Brothers & Co. 1905.

SELECT METHODS IN FOOD ANALYSIS. By Henry Leffmann, A.M., M.D., Ph.D, and William Beam, A.M., M.D., F.I.C. With 55 Illustrations. Second Edition. Revised and Enlarged. Cloth. Pp. 396. Price, $2.50 net. Philadelphia: P. Blakiston's Son & Co. 1905.

SAUNDER'S POCKET MEDICAL FORMULARY, with an Appendix, etc. By W. M. Powell, M.D. Seventh Edition. Revised and Enlarged. In Flexible Morocco, with Side Index, Wallet and Flap. Pp. 301. Price, $1.75 net. Philadelphia: W. B. Saunders & Co. 1905.

ATLAS AND TEXT-BOOK OF TOPOGRAPHIC AND APPLIED ANATOMY. By O. Schultze. *Edited* with Additions by G. D. Stewart, M.D. With 125 Illustrations, 85 in Colors. Cloth. Pp. 189. Price, $5.50 net. Philadelphia: W. B. Saunders & Co. 1905.

TEXT-BOOK ON THE PRACTICE OF GYNECOLOGY for Practitioners and Students. By W. E. Ashton, M.D., LL.D. With 1046 Illustrations. By J. V. Alteneder. Cloth. Pp. 1079. Price, $6.50 net. Philadelphia: W. B. Saunders & Co. 1905.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY, Sixteenth Session, Held at Detroit, Mich., May 30-June 1, 1904. Edited by L. E. La Fetra, M.D. Volume XVI. Cloth. Pp. 296. Reprinted from Archives of Pediatrics. 1904-1905.

TRANSACTIONS OF THE ARIZONA MEDICAL ASSOCIATION. Tenth, Eleventh and Twelfth Annual Sessions, held at Tucson, Phoenix and Tucson, 1902, 1903 and 1904. Paper. Pp. 92. Phoenix: The Arizona Republican.

PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, in *Childhood and* Early Life. By James Taylor, M.A., M.D., F.R.C.P. Cloth. Pp. 512. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Co. 1905.

TREATISE ON ORTHOPEDIC SURGERY. By E. H. Bradford, M.D., and R. W. Lovett, M.D., Third Edition. 592 Engravings. Cloth. Pp 669. Price $5.00 net. New York: Wm. Wood & Co.

ADDRESSES AND OTHER PAPERS. By W. W. Keen, M.D., LL.D., F [illegible] Cloth. Pp. 441. Price, $3.75 net. Phila-dc., [illegible] & Co. 1905.

TRANSACTIONS OF THE ROCKY MOUNTAIN INTERSTATE MEDICAL ASSOCIATION, Denver, Colo., Sept. 6-7, 1904. Cloth. Pp. 216.

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Address

THE RESEARCH IDEA AND METHODS IN MEDICAL EDUCATION AND PRACTICE.*

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CHICAGO.

At the present day, there exists in our country an interesting and peculiar condition of affairs in the matters of medical education and of licensure to practice, —a condition totally different from that which existed here twenty or even ten years ago, or from that which is to be found in any other country in the world. The medical observer from a foreign land—for example Germany—finds here a situation in striking contrast to that which obtains in his own country.

In Germany, twenty medical schools suffice for the needs of 60,000,000 of people,—each is the medical department of a university of which it is an intimate and integral part, and these twenty universities are all under the one central control of the secretary of education for the empire. The admission requirement, uniform for all, is the completion of the course in a gymnasium,—about equal to the completion of the sophomore year in our better literary colleges. The course of medical instruction extends over five years, and is in the hands of men who are, uniformly, the recognized masters in their respective branches, the fundamental subjects, anatomy, physiology, etc., being taught by individuals, each of whom employs his whole time and energies in investigation and instruction in his chosen branch. The relation of the medical schools to the hospitals is such that abundant clinical material can be controlled and properly utilized. The medical graduate secures his license to practice by an examination, the *Staats-Examen,* which is uniform for the entire nation, and which is conducted by its ablest teachers who give hours and days each year to this laborious but important duty, subjecting the applicant to thorough practical tests which are in harmony with the methods by which he has been taught and which really measure his ability to practice his profession successfully. The license thus procured is good throughout the empire and its colonies.

How different from this admirable system is the situation which our inquiring visitor finds in the United States! We have 157 or more medical colleges, though our population numbers only about one-third more than that of Germany, and this number has been increasing at the rate of three or four a year for the last decade. These institutions are graduating about 5,740 physicians a year, at least 2,500 in excess of any possible demand. With few exceptions, they are under no governmental control whatever; any person with the price of a charter may open a new medical school at any time and in some states may sell diplomas if he chooses so to do. Worse still, however, is the great inequality of standards which obtains in these institutions. As to admission requirements, there are schools which nominally demand little more than a grammar school education and this loosely enforced, while at the other extreme are two institutions which exact a bachelor's degree, a preparation about two years in advance of the German standard. Between these two extremes almost every possible gradation is represented. By the compulsion of the medical examining boards the required time of attendance on the medical school is now almost universally four annual sessions, but these range in length from six to nine months, a variation of thirty-three and one-third per cent. In many of these schools, the faculty is composed of the enterprising individuals who organized them or who have been given positions for considerations having little reference to their qualifications for the work to be done. In only a few schools, have the fundamental branches been placed in the hands of persons who are professional chemists, anatomists, physiologists, etc., these being, in most schools, taught by practicing physicians who not only have enjoyed no adequate preparation and possess no special fitness for the teaching of these subjects, but who have no intention of giving their energies exclusively to them. The wide diversity and illogical character of the curricula of these schools, recently pointed out by Drs. Harrison, Webster and others, make very difficult or impossible migration from one school to another, a custom which is one of the strongest features of the German universities.

The matter of licensure is in the hands of forty-five or more separate boards of medical examiners in the several states, with widely varying standards, most of them now requiring a separate examination, but, unfortunately, these examinations, for the most part are conducted by persons little qualified for that function, the statutes in some of the states expressly excluding from membership in the board, the individuals who are best qualified, namely, those who are engaged in teaching. With negligible exception, these examinations are wholly of written papers, not including tests which are in line with the modern practical methods of education. The general lack of reciprocity between the several states makes the license procured in one of no validity in any other, and this imposes great hardship on deserving and able practitioners whom circumstances may oblige to remove from one state to another.

Discovering such a heterogeneous medley of conditions in the medical system of a great and enlightened nation, would not our medical visitor inevitably exclaim that they are chaotic, and impossible? And could we logically gainsay the justice of his criticism?

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* Address to the graduating class at the Commencement Exercises of the Medical Department of the St. Louis University, 1905.

This condition of affairs has brought into disrepute the diploma of the American medical college throughout the world, because it has been known that the degree from some of our medical colleges signifies almost nothing in regard to the qualifications of the holder; yea, more, that there have been colleges in this country, with as high sounding titles as any, issuing parchments of gorgeous appearance with gold seals of imposing size, in which a medical diploma could be bought outright, the purchaser never having spent an hour within the walls of the institution. It has lowered the tone and status of the medical profession and has deprived it of the political and social influence which it should possess, by reason of the dignity and importance of its mission in the world, and which, in other countries, it does possess. The standing of any calling in the community is estimated not by the character and attainments of its ablest but by the quality of its average members. The ranks of the profession have become greatly overcrowded, the ratio of physicians to population being nearly twice as great in America as in any other country in the world. Recently there were examined by one board in a quarterly examination, 420 candidates. Perhaps the most serious evil growing out of our present situation is the harm which is being done to the present generation of medical students, hundreds of whom are each year being launched into a difficult and exacting career with a preparation utterly inadequate. These are the individuals who most of all are going to suffer hardships, disappointment and failure. Of the difficulties and embarassments growing out of our nondescript system of non-reciprocal licensure, it is perhaps unnecessary to speak at further length. In some respects it is the most difficult problem which presents itself. Not only does the absence of reciprocity impose a serious and unwarrantable hardship on the older physician, but there seems great danger that in the effort to bring about reciprocity, the several boards of examiners, composed of well-intentioned but not always wise or properly informed members, may, with the large power which they possess, place great obstacles in the way of the real and continuous progress of the medical schools.

This unflattering sketch of the medical conditions in America is not overdrawn, but, fortunately, there are some encouraging features in the present situation which give promise of a sure, and, let us hope, a speedy improvement. The wide discrepancy in the character of our medical schools is due to the great advance of some and not to the deterioration of any. None is worse, perhaps not so poor, as some which existed twenty years ago; while some of them may be fairly counted in the first rank of the schools of the world. Several agencies are actively engaged in earnest efforts to improve the situation. Among these are the several examining boards, combined in two organizations, the National Federation of Examining Boards, and the American Confederation of Examining and Licensing Bodies; the Association of American Medical Colleges, which has been trailing along in the rear of the progressive movement for several years, gives some faint promise of at least maintaining a firmer attitude for higher standards. Recently, the American Medical Association, now a splendid and powerful organization, originally founded chiefly for the purpose of advancing the standards of medical education in America, but having withdrawn from active participation in this movement several years ago, has renewed its active interest and has created a Council of Medical Education which promises to be a very useful and efficient factor, especially by co-ordinating the various other agencies which are seeking the same end. Fundamentally, however, the demand for this advance, the real impetus, must come from the medical profession itself, and in this regard, our hope rests mainly on the present and coming generations of medical graduates. The progress in the medical sciences and in methods of medical education has been so rapid in recent years that it has been quite impossible for the average practitioner to keep in touch with it. Few of the older physicians realize how inadequate would be the methods by which they were educated and the standards which obtained in their student days, to meet the great and increasing demands of the present time. It is to such men as you, gentlemen of the graduating class, who have been made familiar with the present state of the medical sciences, that the profession must look for an appreciative and intelligent effort to improve the present conditions. In many ways, these matters are of immediate and vital concern to you as individuals and as members of our great profession.

I have chosen to present in this address a measure which would do much to solve the difficulties above described, and that measure is the general acceptance and introduction into the American medical colleges of the ideas and methods of research. It is not offered as a panacea for all the ills of our body-medical, but I believe it would do more than any other one thing to improve the standards of medical education and practice, to elevate the tone of the profession and to unite and strengthen it as a body of scientific men.

Research is defined as "diligent, protracted investigation especially for the purpose of adding to human knowledge; studious, laborious inquiry. Specifically in science, a systematic investigation of some phenomenon or series of phenomena by the experimental method to discover facts or to co-ordinate them as laws." President Gilman has objected to the word "research," originally proposed by an English scholar, Dr. Appleton, as not a "felicitous term," and, etymologically, it is open to criticism. It has come into such general use, however, that it is pretty certain to continue as the accepted designation, though doubtless other phrases which have been suggested, such as, "the advancement of knowledge," "creative action," "constructive scholarship," "original investigation," etc., are more comprehensive and definite.

Research as an individual pursuit and accomplishment is as old as human progress. From the time of Hippocrates, medicine has been blessed with a continuous line of investigators and to the patient, persistent and deliberate search of these earnest, inquiring minds we owe the vast stores of medical knowledge which we possess to-day, for the facts which have been discovered by chance are so few as to be of no practical account. All the great names which we honor in the history of medicine are the names of investigators. Hippocrates, Galen, Vesalius, Harvey, Ambroise Parè, Boerhaave, Laennec, Louis, Trousseau, Virchow, Ludwig, Liebig, Hoppe-Seyler, Sydenham, Hunter, Gross, Flint, and the host of others whose names are immortal, were all seekers after and contributors of new knowledge. In all ages there have been men—teachers of medicine, who were profoundly versed in the knowledge of their time, yet who made no additions to the store of facts. Of wide reputation as were many of these men in their time, their names are with rare exceptions forgotten, as are those of the great performers in music of past generations, while the name of the composer of even a single great musical creation, obscure though he may have been in his own day, lives forever.

While research as an individual accomplishment is ancient indeed, its recognition as the chief and most necessary function of the institutions of higher learning, is comparatively modern. Though the majority of investigators in past centuries have been members of some university and have accomplished their discoveries within its walls, these researches were regarded as quite apart from their function as teachers. The obligation of the university to support investigation as one of its most important and vital functions may be said to have had no large recognition until the reorganization of the German university system after the Franco-Prussian war. In the rehabilitation of these institutions at that time, great prominence was given to this feature and abundant support was provided for it. The idea was transplanted to American soil by President Gilman in the plans for the Johns Hopkins University, inaugurated twenty-eight years ago, and from this center has spread rapidly and widely to other American universities. And what a revolution it has wrought in our educational ideas and methods! No institution to-day pretends to rank as a real university in which original investigation is not being carried on and supported in some or many branches of human knowledge. The relative greatness of such an institution, as determined by scholars and those who are best qualified to judge, is proportionate to the amount and character of its productive work along investigative lines, rather than by the number of its students, the number and magnificence of its buildings or the magnitude of its endowment. What has made Germany the Mecca of all inquiring medical, as well as other scientific men for the last thirty years? Nothing but the fact that in the German universities were to be found the leaders—the masters in the medical and scientific thought of our time; and they were masters because they were investigators provided with every opportunity for research and with freedom to pursue the truth without let or hindrance whithersoever it might lead. What has made the Johns Hopkins Medical School the recognized center of progressive and stimulating medical thought in this country, excepting that conditions have there prevailed similar to those in the German institutions?

"But," it is often contended, "while such institutions have their place for the training of medical investigators, and of the select few in the profession, it is the business of the ordinary medical school to train men for the practice of medicine; and as such it has no concern with research." These sentiments are expressed in an address recently delivered before the alumni of one of the eastern medical colleges. Referring to the high requirements for admission now demanded in some medical schools, the speaker said: "As a basis for the conduct of research work, literary preliminary training and a knowledge of modern languages may be regarded as imperative, but for the fulfilling of the ordinary duties of professional life to the public, these higher requirements are still held in abeyance." And again he said: "A distinction ought to be made, however, between those institutions which are using the laboratory method as a means of elementary instruction in connection with medical colleges, and the universities that offer unusual laboratory facilities in which specialists may do research work. The medical college laboratory needs only to be practical from the student's standpoint. The laboratory for research must be unusually and specially equipped. The end to be attained in each case is so entirely different that it is unfair to compare the laboratory of the one with that of the other."

It is this narrow conception of the so-called "practical" in medical education and practice, the idea that the student who is to become a physician, in the ordinary sense of the word, needs any less thorough or scientific preparation than the research worker, which I wish earnestly to combat. The true physician is a research-worker every day of his life, in the study of every case that comes to his care, and the best possible preparation for his work is exactly the same preparation which is needful for the investigator, in the largest scientific meaning of that word. This fact has already been abundantly demonstrated by many schools and by the many graduates of these schools. The research idea, as applied to medical teaching, is not a mere theory, an academic proposition, but a demonstrated, feasible and advantageous method. The real question is simply this, is it applicable to all medical colleges?

It will naturally be asked: "Just what is implied by the research idea and method as applied to medical education?"

First, we may say, the full recognition of the fact that research is a legitimate and necessary function of every medical school. The faculty of such an institution is in duty bound to make contributions to the world's store of facts, methods and principles. To this end, it must number among its members, especially in connection with the fundamental branches, men who are devoting their time and energies exclusively to research and teaching. Only in this way can there be secured men who are competent to instruct students. Whatever may have been the case in the preceding generations, in our day the real masters of any branch of knowledge are uniformly those who are contributors to that science, and not merely transmitters of the knowledge of previous workers.

We need such men, moreover, in the clinical branches, men who, relieved of the burdens of ordinary practice, and supported by adequate salaries, are able to devote their entire time to the study of hospital cases, and to the exhaustive investigation of disease in the hospital ward and laboratory.

Second, these men must not only be given a livelihood, but they must be provided with suitable material and appliances, and with adequately trained assistants. All this means expense, and large expense, too; a cost altogether too great to be borne by the student, the expense of whose instruction has already reached the limit of his means. Moreover, as the fruits of this research are to be enjoyed by the community it is proper that the cost should be borne by the community through private endowment or by the aid of the state.

The connection of the medical school with a university is exceedingly desirable, indeed, almost an imperative need. So far as research itself is concerned, some of the very best work has been in small institutions, and, for that matter, entirely outside of any institution whatever. The intimate correlation of the several sciences, of late becoming more evident, and particularly emphasized by the scientific congress which met in St. Louis last summer, however, makes it of advantage that workers in anatomy, physiology, embryology, bacteriology, pathology, etc., and not less in the clinical branches of medicine, should be in close relation with those who are expert in other sciences, especially physics, chemistry and the other biologic departments.

The medical school almost of necessity must be a university department if it is to receive large endowment either by the state or at the hands of private individuals. It is true that in Pennsylvania the legislature has lavished money with prodigal hand on the private medical institutions of that commonwealth, but the system is a bad one, and is not likely to be followed elsewhere. Private donors are little likely to give large sums to an institution members of whose faculty constitute a majority of its trustees and who may vote themselves all of its income in salaries if they choose so to do, but with what confidence may not the university ask for large sums for its medical department? Its substantial and disinterested board of trustees, composed of the members of a great church or of business men of proved integrity and judgment, is as certain a guarantee as can be offered, that all its funds will be wisely used. What department of the university can present for consideration with more firm assurance than that of medicine its great needs and tremendous possibilities, or make a stronger, more telling appeal to the average man of affairs? One would not for a moment disparage those lines of investigation which seem remote from immediate human needs; all truth-seeking is worthy of support. A wise university president has recently said, "No knowledge of substance or force, or life is so remote or minute, although apparently indefinitely distant from present practice, but that to-morrow it may become an indispensable need. It cannot be predicted at what distant nook of knowledge, apparently remote from any practical service, a brilliantly useful stream may spring. It is certain that every fundamental discovery, made by the delving student, has been of service to man before a decade has passed." The imaginary antithesis between the theoretical and the practical is vanishing, as Mr. Putnam, the Librarian of Congress, has admirably shown in a recent address. While, therefore, the claims of any department of human knowledge for the support of its investigators should receive the support of every intelligent man, we may properly enough recognize the fact that to the average man of affairs, there will appeal with especial force those lines of research whose practical bearings are readily demonstrated, and hat a world of possibilities are already opened up long medical lines! Calling to mind the thousands d thousands of lives which have been saved by the discovery of the antitoxin of diphtheria—a fruit of the purest sort of laboratory research—think of the magnificent boon which would be conferred on humanity by a similar discovery for scarlatina, measles, pneumonia, epidemic meningitis, and other infectious diseases! What a weight of suffering and wretchedness would be lifted from the race could we solve the problem of cancer! It is the research feature of medical work which appeals with especial force to private beneficence. We have in this country some munificent foundations for this purpose—the Rockefeller Institute for Medical Research, in New York City; the Memorial Institute for Infectious Diseases, founded by Mr. and Mrs. McCormick in Chicago, and several smaller endowments for similar purposes. The medical school which makes research a conspicuous feature, therefore, will be far more likely to secure pecuniary endowment than the institution which restricts itself to the work of instruction.

Yet another essential prerequisite for such a medical school as we are conceiving is a better preliminary training of its students than is now required by most medical colleges. This is imperatively demanded by the conditions of the time, for the good of the profession and the public, and for the protection of the coming generation of medical students. The sciences which lie at the foundation of clinical medicine have expanded enormously in the last twenty-five years, and during that period medical study and practice have made more progress in the direction of scientific exactitude than in all the previous centuries. There is still much that is empirical in therapeutics and even in diagnosis, but the modern progressive practitioner may now approach most of his problems by truly scientific methods, and the hope of medicine for the future lies in the direction of eliminating empiricism and substituting therefor exact methods—the thorough, accurate observation of clinical phenomena, strictly logical deduction from these observations, and the application to each case of well established principles.

To enter on the study of the medical sciences, thus conceived, comprehendingly and effectively, the student must possess a well trained mind, thoroughly grounded in the usual branches of English, Latin, history, mathematics, with a broad and thorough knowledge of physics, chemistry and general biology, and with a good training in the laboratory methods of these sciences, which do not rightfully belong in the medical curriculum at all, except in their application to medical problems. He should have, in addition to these, a reading knowledge of one modern language besides his own, especially of German. Even the best of the high school courses does not afford this preparation. The time has arrived when we may justly and of necessity demand of every person expecting to study medicine, at least two years of work, in properly selected branches, in a literary or scientific college. Bearing in mind the overcrowded condition of the medical profession in America, the large excess of graduates which are annually being poured into it; the readiness with which any earnest, energetic young man in good health, even though he be dependent on his own resources, may secure such an education as we have described; and with the certainty that his future success or failure depends more than all else on the breadth and thoroughness of his fundamental education, is it not reasonable to advance the entrance requirements of every medical school to the standard proposed? We are accustomed to speak of the admission requirements as being determined by the medical schools or by the medical examining boards; as a matter of fact, the essential requirements are really determined by the state of medical science and the conditions of the time; the colleges and examining boards simply interpret these conditions in fixing their own requirements. As this interpretation by a particular college is wisely or unwisely made, so, as a rule, will its students prosper or fail in the career for which the college is preparing them. Under the conditions now prevailing, and which are growing more exacting every year, the preparation afforded by a four-year high school course, plus two years in college, is not in any degree excessive.

To what extent should the individual student engage in research work during his medical course? Is it proposed that he shall spend all his time and secure all of his education by such a method? Obviously, the second question is to be answered in the negative. While the fact needs to be emphasized that the chief purpose of a medical course is education in the true sense—a training of the powers of observation and of the mental faculties along medical lines—the acquisition of many facts is essential, and for these he must draw on the great storehouse of knowledge already accumulated. The tremendous advantage of obtaining as much of this knowledge at first hand, by contact with and a study of the objects themselves, as contrasted with the mere memorizing of facts as written or spoken by others—is already universally recognized in the numerous laboratory and practical courses which have so largely supplanted the purely didactic methods of former years. For the most part, however, the student must be dealing with facts and principles already established, though he may approach these to a considerable degree by the methods of original investigation. To every student there should be assigned each year a subject for investigation in which he may actually explore the realms of the unknown by the exact, painstaking methods of research. It will give a zest and enthusiasm to his medical studies which no other plan affords. The wise selection of these topics for research and their judicious assignment among the students according to their special abilities and predilections, is a task requiring careful deliberation and discriminating judgment. The topic should be well within the capacity and equipment of the one to whom it is assigned, should be one that is really worth investigating, in order that he may feel that his results will be of value, and it should have as wide bearings as possible and thus necessitate his seeking information in many collateral topics and branches. Such an investigation need not by any means be a narrow or narrowing mental exercise. With a suitable subject, properly pursued, a seemingly small problem may bring the worker into contact with a very wide range of medical facts and principles in almost every branch of medicine. President G. Stanley Hall, in his recent book on "Adolescence," gives an interesting account of an experience of his early student days in the laboratory of a German professor, who set him to work on a frog's muscle. At first it seemed a trivial topic indeed, and far removed from the large field of study which he had planned, but presently he discovered that to comprehend the method of action of the frog's muscle, he must know thoroughly its minute anatomy and that of the surrounding structures; a knowledge of the nervous system was essential; the action of the muscle was dependent on its nutrition, and this involved an investigation of the physical and chemical processes going on within the muscle as well as in the digestive tract; a comprehensive study of the topic must include the embryologic development of the muscle, and a comparative investigation of the muscles of other animals. Few subjects of investigation if exhaustively pursued, will fail to lead one into numerous by-paths, involving the study of many and diversified facts, at first thought remote from the original starting point; and psychologically, facts thus garnered, cling to the memory, and become part of one's available classified knowledge as do those gathered in no other way.

Such a course of research work need occupy but a minor portion of the student's time, but it will imbue him with an interest and an earnestness in all his other work in a manner truly marvelous. This is no fanciful speculation, it has been observed by many teachers over and over again.

Then, too, the spirit with which one approaches his research work in the laboratory, and the methods by which he proceeds, are exactly those which the successful physician must make use of in the study and treatment of his patients at the bedside. Every case is a problem by itself, no matter how one may classify and designate the particular group of symptoms which it presents. No case of disease, exhaustively considered, is ever exactly like any other, and to the degree with which the practitioner recognizes these differences and adjusts his treatment thereto, to that degree will he be a wise and successful physician.

The union of research and instruction in the medical school is thus of advantage, on the instructional side in that it secures the highest grade of instructors, it affords almost the only basis for procuring pecuniary endowment, it necessitates a better preliminary training of the student, and it provides a method of instruction which gives a new inspiration and enthusiasm to the student, and affords the most logical and effective preparation for his life-work. Such a union is likewise in the interest of research. In the work of instruction the majority of investigators find a stimulus and an inspiration which is highly valued. Says President Gilman: "We often hear discussions as to the relation of instruction to research, sterile intellects attribute their non-productiveness to overwork, when a more acute diagnosis detects a lack of will-power; Sylvester, the great mathematician, said that his mind was never so fertile as when excited by the queries and criticisms of his pupils; and scores of our contemporaries would say so, too. On the other hand, certain minds have done their best work without any pedagogical obligations—no more absolute rule can be laid down than this—let those who have the duties of a professorship discharge them well; and those who have leisure be sure it is not wasted."

Another and more cogent reason why research must, in large measure, be combined with instruction is the fact that such a plan alone affords the investigator the opportunity to select and to train his successors. If medical research is to flourish in this country its most imperative need is that of a continuous and sufficient supply of competent investigators. The successful investigator is both born and made—and their number is very few. Not infrequently he is discovered in a laboratory, in the person of one who would least be suspected of possessing the essential qualifications. The successful conduct of some routine piece of work which has been assigned to him discloses the fact that he is endowed with the essential requirements, and careful training develops him into a ripe and successful worker; but he is one among hundreds, and the master, in order to develop a few competent successors, must have opportunity to study and to select from a large number. Institutions for pure research are useful and necessary, but it would be unfortunate—aye disastrous—both to research and to instruction if they were to be generally divorced. They must, for the most part, in the future as in the past, go hand in hand, if the best results are to be secured.

Finally, the sort of training which has been outlined, would improve the character of medical practice in this country to an immeasurable degree. The pursuit of knowledge by the methods of the research worker develops, as do no other methods, a love of truth for its own sake, an intolerance of guess-work and of pretense, and a patient, painstaking thoroughness and accuracy in observation and deduction, which are greatly needed in this country. We have alluded to the distinction which is constantly made between the theoretical and the practical. How long must it take us to learn that the only practical knowledge is thorough, exact knowledge? A practical education is not comprised in the mere accumulation of those facts of anatomy, chemistry and the other fundamental medical sciences, which seem at the immediate moment to have a bearing on the problems of practical medicine. This might serve if these sciences would only stand still, but progressing as they are with tremendous rapidity, the knowledge of to-day may be obsolete to-morrow, and the facts and methods which now seem most remotely theoretical may be of the most immediate practical importance in the near future. The practice of medicine is applied science, and consists in the application of the principles, facts and methods of physics, chemistry, anatomy, physiology, bacteriology, pharmacology and pathology, to the study and treatment of the diseases and accidents of the living body. In the pursuit of any applied science the only logical method of procedure is to master first the fundamental facts and principles of these sciences; then, and then only, can one intelligently comprehend their application to the specific problems of medicine. Fundamentally the chemistry which the physician must know is the same as that required by the metallurgist, the analytical chemist, the pharmacist or one in any other vocation into which chemistry enters. It is only in the application of chemistry along these special lines that the methods differ. If the physician is to have a ground work in chemistry which will enable him to keep abreast with the advances in his profession, he must so master the general subject that he will be able to keep in touch with the progress in chemistry, to read its literature intelligently and to apply its frequent new discoveries in his daily work. And these statements apply with equal truth to anatomy, physiology, and the other fundamental branches.

The physician trained in such a school is sure to be intolerant of many of the abuses which have so long disgraced the American medical profession. The manner in which the profession has sold itself—nay, given itself away, to the manufacturing pharmacist, prescribing and endorsing a host of proprietary preparations of whose composition he is ignorant, is one of the most disgraceful and humiliating incidents of our profession. These enterprising manufacturers must laugh in their sleeves as they contemplate the facility with which they have induced physicians to advance their purely selfish commercial purposes by establishing their nostrums, by the petty bribery of free samples, and of blotters, pencils, paperweights, and sundry other advertising gew-gaws. It is high time that we ceased to permit these arrogant gentlemen to be our therapeutic mentors. No truly scientific physician will ever prescribe a preparation unless he knows positively its exact working formula, nor is there any sufficient reason for his prescribing any combination which is protected by a trade name. Departure from this strict rule of professional integrity and self-respect has proven a boomerang in not a few instances, when the manufacturer, his nostrum thoroughly advertised to the public as endorsed by the physician, has proceeded to assure them that his panacea was all-sufficient and that its use would enable the patient to dispense with the expensive services of perhaps the very physician who had recommended it.

Our medical literature, so much of which is anything but creditable, will be greatly purified and elevated when the profession consists of broadly educated men with discriminating judgment who will not tolerate the flabby, unscientific stuff which now makes up so large a portion of it. In this connection, may I urge the importance of a careful selection of the medical journals which will constitute a large and important part of your mental pabulum throughout your active lives. Shun the organs of the manufacturing pharmacist, or those which devote themselves mainly to the exploiting of proprietary remedies. Do not choose a journal because of its low subscription price—good medical literature, like anything else which is of good quality, must command a reasonable price and is ever the cheapest investment. If you are in doubt as to what are really the best journals, seek the advice of some older, and scientific practitioner, but by all means start out in your professional career by reading journals which are worth your while. Unfortunately, this class is not a very numerous one and the selection will not be difficult. You will find it of advantage to keep in touch with the purely scientific side of medicine by reading at least one journal devoted to anatomy or physiology, to bacteriology, or pathology, or such one of these fundamental branches as most interests you.

And lastly, may I suggest that you may with the greatest advantage start out in the career you have chosen, as an investigator, putting into practice the ideals and methods of research, and training yourselves by their daily exercise. In the early days of your practical life, when you will be blessed or troubled by few patients, select some topic in anatomy, histology, physiology, or any other department of your choice and devote a portion of each day to its pursuit. The number of such problems is legion, and abundant material for study will lie at your hand, no matter where you may locate. In the selection of the topic and the conduct of your research those who have taught you here will be delighted to assist and to advise you.

Later, as clinical cases come to you, these will naturally become, at least in part, the objects of your researches, but the training you have acquired in the pursuit of the simpler problems, where the factors were few, and more readily grouped and controlled, will be sure to make you more painstaking, thorough and scientific in your clinical work. You will have formed the habit of seeking out exhaustively every fact which can have any possible bearing on the case, of recording these observations accurately and of deducing your conclusions only when this has been done. Clinical observations so made and recorded are scientific data, and furnish the best possible material for real contributions to medical literature. Time can be found for such work even in the midst of an arduous practice if one will only order his time systematically. It is the greatest and busiest men who do find time for these things. One of the great surgeons of the world laid the foundations for his splendid career by experimental research while conducting an extremely arduous and time-consuming country practice. Robert Koch was a country practitioner when he discovered the bacillus of tuberculosis. Such investigation, even though the topic

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be small and simple, serves to keep one in touch with the scientific side of medicine, and a worthy and familiar associate with the greatest men in its ranks.

Gentlemen of the graduating class, as a fellow-physician, I welcome you to the ranks of the great profession of medicine. You enter its active life at a very interesting epoch. While the profession is overcrowded there is always room at the top; never was there greater need and demand for earnest, faithful, properly trained workers. Great things have been accomplished in medicine in the last quarter century, great work is being done to-day and the immediate future is pregnant with yet greater possibilities. I wish for you the fullest measure of participation in the magnificent activity which is all about us, and the achievement of the largest possible success.

Original Articles

AINHUM.

WITH REPORT OF A CASE.

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Ainhum, from the Nagos native name, meaning "to saw," may be defined as a pathologic process, the ultimate result of which is a spontaneous amputation of one or more fingers or toes, usually the little toe. This occurs through a slow but gradual circular strangulation. The disease when unchecked inevitably leads to loss of one or more fingers or toes. Generally only the little toes are affected, but cases occur in which other toes are attacked and amputated.

HISTORY OF THE DISEASE.

The affection was first described by Clark,[1] and later by Da Silva Lima[2] of Bahia in 1866, who gave to the medical world the first complete reports of this strange malady. It was at first supposed to be confined exclusively to Brazilian territory. Since then, however, it has been reported from nearly every quarter of the globe. It has been met with most frequently on the western coast of Africa, in Brazil and in India. It is also reported from Egypt, Trinidad, Buenos Ayres and other parts of the world. The affection occurs most frequently in the negro, although cases are reported in Arabs, Musselmen and Chinese. In the United States the disease has been met with most unfrequently and I am able to find in our literature not over twenty cases reported of this strange affliction.

All these cases have occurred in negroes. Hornaday[3] reported a case in a negress from North Carolina; Horwitz[4] of Philadelphia and Shepherd[5] of Canada found cases in negroes. Evans[6] reports a case in a negro, aged 72, at Darlington, S. C.; Dr. R. H. Days of Baton Rouge, La., had a case in a negress, and Dr. J. L. Deslates, also of Louisiana, reports four cases occurring in St. James' Parish. Another case is reported from the Emergency Hospital of Washington, D. C., and Matas[7] and Isadore Dyer[8] of New Orleans have written extensively on cases observed in that city. Hyde and Montgomery, Stelwagon,[9] and others have also reported cases. So rare, then, is this disease in the United States that the records show scarcely over a dozen cases; and yet the disease is so prevalent in India that Crawford found a case in every 2000 surgical cases at the Indian hospitals. The absence of pain or inconvenience in many instances, doubtless, keeps the number of cases reported few and far between; moreover, we must take into consideration the fact that the class of persons afflicted with ainhum are seldom brought in contact with medical men. Thus it happened that in my case, complete amputation of one toe and almost complete amputation of another had manifested itself before the patient sought relief or obtained knowledge of his condition.

SYMPTOMATOLOGY.

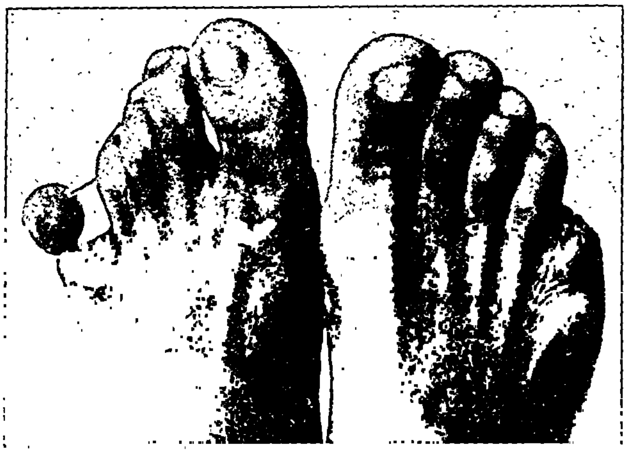

Fig. 1.—Ainhum. Case of Dr. Nelson D. Brayton's, March 1905. Spontaneous amputation of little toe on right foot. Little toe on left foot almost severed. Characteristic tumefaction and enlargement of the ball-like portions beyond constricting band.

The disease begins almost invariably with a crack or fissure at the root of the little toe on the plantar or inner side. It may occur on one foot only, or in both feet simultaneously, or it may affect one foot after the other, as in my case. The groove, once started, deepens and extends gradually around the whole circumference of the toe. As the groove deepens, generally without ulceration, bleeding, or discomfort to the patient, the distal portion of the toe enlarges and may swell to twice its normal size. It becomes rounded and ball-like in appearance and may be even wider transversely than anteroposteriorly. After a varying period of time, ranging from two to ten years, the phalanx is absorbed, the blood vessels become obliterated and the toe drops off. Pain is never a marked symptom unless it occurs incidental to the liability to injury to which the dangling and now everted toe is exposed. The pain may also occur as a result of the swelling and edema of the constricted part. There may be an erythematous eruption accompanying the constriction or the ulceration due to traumatism in the latter stage of the disease. These ulcers, if they do not show a tendency to ready healing, may become quite painful, particularly those located in or near the digitoplantar fold. This is especially noticed in the wearing of a tight shoe or in disturbing the normal posture of the toe in taking on or off the shoe.

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[1] Clark: Trans. Epidemiology Soc., London, 1860.

[2] Da Silva Lima: American Arch. of Derm., 1880, p. 357.

[3] Hornaday: Trans. Med. Soc. of North Carolina, 1881, vol. xxviii, pp. 76-78.

[4] Horwitz: Med. and Surg. Reporter, Phila., 1887, vol. lvi, p. 649.

[5] Shepherd: Amer. Jour. Med. Science, Phila., 1887, vol. xciii, p. 137-140.

[6] Evans: Trans. Med. Assoc. of South Carolina, Charleston, 1887, p. 93.

[7] Matas: New Orleans Med. and Surg. Jour., vol. xvi, p. 603; and Trans. Amer. Surg. Assoc., 1896, vol. xiv.

[8] Dyer: Reference Handbook Med. Science, vol. i.

[9] Stelwagon: "Text-book on Diseases of the Skin."

ETIOLOGY.

Ainhum is a disease more common in males than in females; it is rare in the latter. Thus, of von Winckler's[10] 20 cases, all the patients were males. Heredity may occasionally play some part in the affection, (Da Silva Lima,[2] Dupouy, Duhring). In Duhring's[11] case, the father and mother of the patient both had the disease. Ainhum may occur at any age but is most common between the ages of thirty and thiry-five years. Cases have been reported in utero. Le Brun reports a case at six years; again it has occurred as late as 70 years (Evans), the process lasting over fifty years.

It is a disease essentially of the negro race (it has been reported in but four whites) and occurring in tropical climates, although exotic cases do occasionally occur. A parasitic nature of the disease is maintained by some but this has not been proved and is improbable. Zambaco Pacha[12] maintains that it is an attenuated form of mutilating leprosy, but his theory lacks confirmation by other trusty observers. This is practically all we know of the etiology of ainhum. It has been asserted that the malady is due to the wearing of rings on the toes, but the disease occurs in tribes and races that never wear rings and who wear shoes instead. The flatfootedness of the negro is supposed to explain the fact that the fourth and fifth toes are more generally affected.

Injury, such as stone-bruise, has been attributed as the initial cause, and well authenticated cases have been reported in which traumatism has been distinctly remembered, but competent observers deny that habits, work, or accidents, are a feature in the causation and that the traumatism simply draws attention to the pre-existent condition.

Manson[13] states that it is considered by some observers as a trophic lesion dependent on some nervous affection. Dupouy reports the occurrence of severe loin pains at the commencement of some of his cases and the tendency of the disease to run in families. This is also noted by Da Silva Lima[2] and Duhring,[11] as noted above. The suggestion that it is a form of sclerodermia or leprosy, or produced artificially by the wearing of rings or intentional ligatures, or provoked by wounds inflicted on bare feet while walking through grass, reeds or rushes, shows the variety of causes ascribed as instigators of the disorder.

HISTOPATHOLOGY OF AINHUM.

The histology of ainhum shows it to be a direct ingrowth of epithelium with a corresponding depression of surface due to a rapid hyperplasia that pushes down and strangles the papillæ; thus cutting off the blood supply from the epithelial cells and causing them to undergo degenerative changes with fatty metamorphoses and dry gangrene.

Unna[14] gives a remarkably clear exposition of the present belief of the pathology of ainhum. He considers it a primary degeneration of the skin. "It is a sort of ring-formed sclerodermia with callous formation of the epidermis, leading to secondary total stagnation necrosis, which has a close resemblance to the artificial elastic snaring of tumors." Besides a primary inflammation with marked hypertrophy of the epidermis as indicated by the callous formation, there exists a condition of chronic inflammation.

"The horny layer is much thickened especially in the ridge-net of the epidermis, and the papillæ are consequently elongated and narrowed. The basal prickle layer is, as usual in negroes, deeply pigmented. In the papillary body, there is cellular infiltration. The papillary vessels are dilated, and the larger and deeper lying vessels of the cutis and the hypoderm show obliterating endarteritis in different stages of development. There is thickening of the membrana propria."

These are the progressive changes found in stagnatory dermatoses. When the stratum corneum becomes thickened even in small areas, as in corns, atrophy of the underlying epidermis occurs. It is to be expected, therefore, that, with this hyperplasia of the epidermis and downgrowth of the interpapillary process, the corium should show an increase of fibrous tissue and fat; that owing to pressure necrosis there should be changes in the deeper blood vessels and arteries; an increase of the adventitia or intima coats of the arteries so that the lumen is impaired, and finally obliterating endarteritis with slow gangrene. Eventually, the constricting band approaches the bone; tumefaction of the toe occurs with stagnation of lymph and fat, gradually causing degeneration of all the constituents of the bone tissue, pulp, and cutis; a condition of rarefying ostitis takes place with final disappearance of the ungual phalanx, the partial disappearance of the second, and almost always the preservation of the third. The line of the division may occur through the middle of the proximal phalanx or at the proximal interphalangeal articulation.

The pathologic points of interest concern the changes produced after the early appearance of primary inflammation. Whether this is due to a callous formation, is yet to be determined. Hence the necessity of microscopic examination of sections removed at an earlier stage than has previously been done.

Ainhum is certainly not a form of leprosy. The lepra bacillus has never been found in the tissues nor are there any other earmarks of that disease. The most acceptable view would seem to be that it is a trophoneurosis of unknown and therefore of purely speculative origin.

DIFFERENTIAL DIAGNOSIS.

The differential diagnosis in ainhum must be made from Raynaud's disease, paronychia, neurotic ulcer, and leprosy.

In Raynaud's disease we have the history of occurrence of pain, the frequent exemption of lower extremities, the constitutional disturbances which accompany a disease which has preliminary lesions such as bullæ, vesicles, edema, etc. Symmetry of the lesions should also serve to establish a quick diagnosis.

Paronychia occurs on the ungual phalanx only; the nail is often affected.

Neurotic ulcer begins as a callosity; it is circumscribed and deep seated, occurs usually on the plantar surface of the heel or great toe, and is never located just at the digitoplantar fold of the fifth toe. It is characterized at the start by loss of central tissue and by a persistent slough ulcerating and discharging freely. In addition, it is painful, often the surrounding parts are edematous and a history of syphilis (locomotor ataxia), leprosy or severe injury to the cord can be obtained.

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[10] Winckler: Brit. Guiana Med. Ann., Demarara, 1891; p. 88.

[11] Duhring: Amer. Jour. Med. Science, 1884, vol. lxxxvii, p. 130.

[12] Zambaco Pacha: Trans. International Leprosy Conference, 1894 and 1897, vol. iii, p. 468; and Bull. Academy of Med., July, 1898.

[13] Manson: "Tropical Diseases."

[14] Unna: "Histopathology of the Skin," p. 1114.

Leprosy of the mutilating type presents after Raynaud's disease the most likely point of error. Leprosy, however, is not confined exclusively to the colored race; it frequently occurs in whites. Its trophic lesions may be formed on any point of the body; not necessarily on some certain toe. Other manifestations of the disease, on other regions of the body, will certainly be present to confirm a diagnosis; moreover, in mutilating leprosy, as in Raynaud's disease, there are preliminary manifestations of necrosis, as bullæ, macules or tubercles at the point of attack where destruction is sure to follow.

A tuberculous ulcer or suppurating corn between the toes could scarcely be mistaken for ainhum.

TREATMENT AND PROGNOSIS.

Treatment of the affection from a conservative standpoint is highly unsatisfactory. Most patients appear too late for conservative measures and only, as in my case, after the toe has nearly removed itself. In the early stages of the disorder, all observers are agreed that linear incision, curettage, excision or scarification of the constricting band is the indicated method of procedure. This, however, does not insure against a return of the malady. Salicylic acid in ointment (20 per cent.) may be applied to remove the horny layer of epithelium or this may be accomplished by wet dressings of Thiersch's solution; (saturated boric-salicylic acid aqueous solution). This will cleanse and relieve the parts from pain but is not of permanent benefit. When the disorder is of long standing or troublesome, the affected toes should be amputated.[15]

REPORT OF CASE.

Patient.—J. V., a negro, aged 24, referred to me by Dr. Thomas Kennedy, Shelbyville, Ind.

History.—Ten years ago he first noticed a crack or furrow on the inner side of his little toe, on the right foot. This crack increased in depth and about six years later the toe dropped off. On his left foot, the disease first appeared about four years ago and has been steadily progressing. The toe hangs only by a thread not larger than a number 12 French sound.

The inconvenience to the patient arises when he puts on or off his shoe, and it has become necessary for him to cut away the outer portion of the shoe.

Remarks.—The illustration perfectly portrays the enlargement and tumefaction of the ball-like toe beyond the constricted portion; also the increased amount of epithelium and cornification over both the right and left phalangeal joints. The patient is a native of Kentucky and no history of heredity was obtainable. He sought relief on account of the pain occasioned by a small ulcer on the plantar surface of the toe.

Amputation was of course advised and performed. Bleeding was slight, and healing occurred promptly without inconvenience.

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[15] Other reports of cases and references which may be consulted are as follows: Pyle: Med. News, Phila., 1895, vol. lxvi, p. 85-88. Ohmann-Dumesnil: Trans. Med. Soc. of Missouri, 1895, p. 124-137; and Medicine, Detroit, 1895, p. 202. Herrick: Phila. Med. Jour., 1898, vol. i, p. 246. Bass: Nashville Jour. of Med. and Surg., 1898, vol. clxxxiv, p. 201-206. Wolf: Amer. Jour. of Derm. and Genito-Urinary Disease, St. Louis, 1889, vol. iii, p. 3. Eyles: Lancet, Sept. 25, 1886, p. 576. Gould and Pyle: "Anomalies and Curiosities of Medicine," p. 828. Love: Gaillards Med. Jour., N. Y., 1883, vol. xxxv, p. 367-369. Heitzmann, Trans. Amer. Derm., Assoc., Chicago, 1881, vol. v, p. 49-51.

ETHYL CHLORID ANESTHESIA OF THE MEMBRANA TYMPANI AND EXTERNAL AUDITORY CANAL.

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BALTIMORE.

The otologist performs the different operations within the external auditory canal under various difficulties. His field of operation is usually at the bottom of this deep and tortuous canal; the operations, while brief, are ordinarily very painful so that the patient is very apt to jerk his head and throw out of position the operator's carefully adjusted illumination and field of observation, resulting possibly in injury to neighboring structures. For these reasons, let alone the more humane one of saving the patient suffering, some form of anesthetic is desirable or at times even necessary.

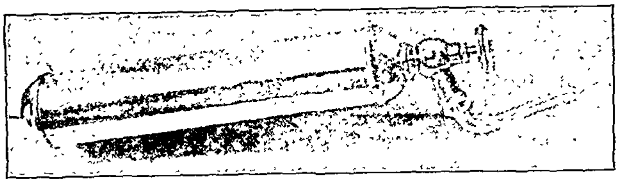

Figure 1.

Except in the case of young children or for delicate and complicated operations, the risk of a general anesthetic seems unwarranted. Solutions of cocain, or its equivalents, are absorbed but slowly and with difficulty by the skin surface of the canal and hypodermic injections are impractical for various and obvious reasons.

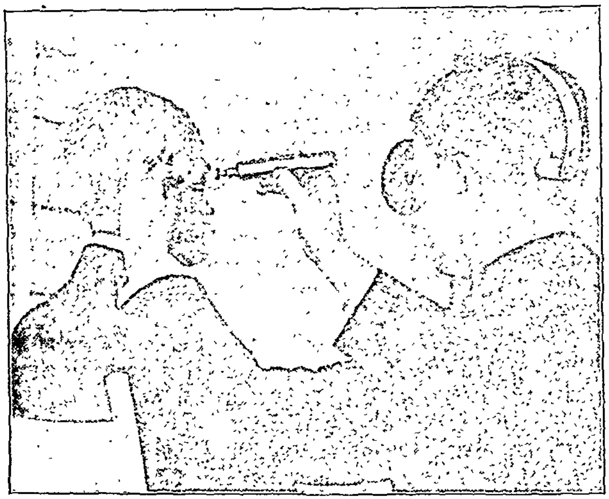

Figure 2.

A more suitable method of obtaining anesthesia in these cases is very desirable.

A very convenient and efficient means of producing local anesthesia is offered to us by freezing the part with ethyl chlorid; which, being always ready and quickly applied, forms an ideal method for office and clinical practice, since no time is lost in waiting for the anesthetic to be absorbed, as is the case with cocain solutions.

At first thought it might appear that the process of *freezing* may be fraught with danger and cause mischief to the structures of the middle or internal ear, or that the pain and discomfort incident to this process would offset the anesthetic qualities obtained, but practical experience has proven these fears unfounded.

My first experiment with this method was done on a patient suffering from a left facial paralysis of seven months' standing; the left ear was filled with exudate and almost deaf. The case is more fully reported by my friend, Dr. H. O. Reik,[1] who suggested a paracentesis of the drum membrane on the affected side for the relief of the paralysis. A jet of ethyl chlorid was allowed to play into the canal for some seconds and the incision was then made. With the exception of a slight burning sensation due to the ethyl chlorid nothing was felt by the patient, who was a very nervous woman. She almost completely recovered from her facial paralysis and her hearing returned to normal. Encouraged by this success, which demonstrated the harmlessness of the procedure, I have since used this freezing method on every available case that presented itself during my service at the above mentioned clinics and also in my private practice. In no instance was the subsequent course of the case any different from what might have been expected, had ethyl chlorid not been used.

In my earlier cases, I used an ordinary ethyl chlorid tube held twelve to fifteen inches from the ear and allowed a jet of the liquid to play into the auditory canal through the previously inserted speculum. This had some disadvantages. One had no assurance that the drug actually reached the desired spot and hence anesthesia was sometimes imperfect; much liquid was wasted and more than necessary was injected, producing more or less pain and discomfort to the patient, and it was almost impossible to avoid getting some of the liquid on the face or even into the eye of the patient, unless previously protected by a towel.

These disadvantages have been completely eliminated by a new nozzle especially designed for the purpose and made for me by the Gebauer Chemical Co. of Cleveland, Ohio. This nozzle is about two inches long, very slender and is attached to the metal container at such an angle as to permit a good view of the parts beyond when partly introduced into the speculum. The apparatus is held in the same manner as any ear instrument, the body of the container forming the handle and a very fine *spray*, not a jet, is easily directed to the desired spot (Figs. 1 and 2).

In practice, I begin with an almost imperceptible spray, which I allow to play on the part, until the patient feels a certain degree of coolness within the ear, then very gradually increase the volume of the spray by slowly opening the valve, at the same time facilitating its rapid evaporation by means of a jet of air blown into the canal from a Politzer bag. With a little practice one soon learns to know how far it is necessary to carry the procedure in order to obtain a sufficient degree of anesthesia. For my part, I usually shut off the spray when the patient begins to complain of an aching sensation, then blow in a little more air and operate; the whole procedure taking but a few minutes. A minimum amount of ethyl chlorid is used and none wasted, an item of some importance when dealing with such an expensive drug.

In searching the literature on the subject I find that Brieger[2] mentions the use of ethyl chlorid for similar purposes, but up to the present time have not been able to get access to his paper and am not familiar with his method of application.

In addition to the usual minor operations about the ear canal, such as paracentesis, incising furuncles, extracting polypi, etc., I have recently began to use ethyl chlorid in the manner above described as a preliminary to the application of Lucæ's sound in the treatment of chronic otitis media and find it an ideal way to avoid pain, the one objectionable feature of that form of treatment. The results thus far seem to indicate a far greater percentage of markedly improved cases than I was able to obtain before introducing the preliminary freezing; however, further experience is necessary to more fully confirm this statement, and I shall take pleasure to report on the same at a future date.

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THE TRANSMISSION OF DISEASE BY THE MOSQUITO.*

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The study of the life and habits of mosquitoes, not only in their adult stage, but in their cycle of development from the egg to the mosquito, is one of the most fascinating subjects that a person who has the time could possibly take up. Not only is the subject fascinating, but it is also of great importance that the life history of all species of mosquitoes should be understood, as they have been proved beyond a doubt to play a prominent part in the transmission of disease to human beings and animals, and more especially is this true of malaria, yellow fever and filariasis.

Mosquitoes belong to the order of *Diptera*, of the family *Culicidæ*. They are differentiated from other insects which simulate them by, 1. The piercing mouth. 2. The scales on the veins of the wings. 3. The particular venation of the wings.

There are four stages in the life of the mosquito, the egg, larva, pupa and imago or winged insect. The early stage of the mosquito is always aquatic.

EGGS.

The eggs are deposited habitually on the surface of either natural or artificial collections of water. Occasionally, however, they may be laid on moist soil, or on grass above the water, and hatch out later when water reaches them. The eggs are laid in one of two ways, either singly, each egg lying on its side (*Stegomyia fasciata*); or in a boat-shaped mass containing from 200 to 400 eggs all glued together, each egg resting on its end (*Culex*). The eggs hatch out in from 12 hours to 2 days.

LARVÆ.

The larvæ are cruciform, and easily recognized in the water by their wriggling movements. They have a disproportionately large head. The larvæ of the subfamily *Anophelina* habitually *rest in a horizontal position* at the surface of the water. Other species hold themselves in an oblique position, head downward, at the surface. The larvæ remain in the larval stage about a minimum of six days, but the duration may be much longer.

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[1] Reik: "The Relationship Between Otitis Media (non-suppuration) and Facial Paralysis of the Refrigeratory Types. Trans. Am. Otological Soc., July, 1904, p. 376.

[2] Brieger: Klinische Beiträge zur Ohrenheilkunde, 1896.

* Read before the St. Louis Medical Society, 1904.

PUPÆ.

The pupæ, third stage of the mosquito, differ from the larvæ in the great swelling of the thoracic segments. They habitually remain at the surface of the water, unless disturbed, when they rapidly descend. They remain in the pupæ stage about 24 hours to 3 days, when they hatch out and become mosquitoes.

MALARIA.

The mosquito malaria theory was held by the ancient Roman writers nearly 2,000 years ago. The same belief prevailed among the peasants in certain parts of Italy and Tyrol, and among barbarous tribes in the malarial districts of Africa. Many other theories prevailed, those most generally accepted being that the disease was due to foul air, night mists, odors from swamps or marshy soil, stagnant water, upturned earth, etc.

In more recent years, we find the mosquito malaria theory advanced in a scientific manner by Americans. Dr. J. E. Nott, in 1848, discussed the question of the transmission of malaria by mosquitoes, being convinced that they transmitted the disease. Dr. A. F. A. King, in 1833, wrote a very thorough article on the etiologic relation of mosquitoes to malaria. Laveran, in 1891, and Koch, in 1892, believed in the theory, but without producing any facts in its support. Dr. Patrick Manson, in 1894, offered the most plausible theory, stating his belief that it must be carried by some blood sucking insect, and from the habits and distribution of the mosquito, he believed the disease was transmitted by this insect. Dr. A. Bignami, in 1894, was probably the first to definitely bring out the theory that the mosquito conveys the infection of malaria by inoculation.

Dr. Ronald Ross, in 1895, began to work on the mosquito theory. He allowed the insects to bite cases of malaria, but failed at that time to get his mosquitoes infected, due no doubt to the fact that he was experimenting with the culex species. In 1897, Ross tried to infect anopheles mosquitoes that he had not tested previously. On examining the insects after a day or two, he was able to find positive evidence of malarial infection in the stomach. The walls of this organ were found to contain encysted parasites (zygotes).

Dr. W. G. MacCallum, in 1897, proved that the gametocytes are sexual forms, describing the process of the micro-gametocyte flagellating and penetrating the macro-gamete. He was probably the first to recognize the true sexual process that takes place between the male and female parasites of malaria.

Dr. Ronald Ross, in 1898, followed out a series of experiments with the malaria of birds, using the culex mosquitoes. He was able to demonstrate the cycle of development of the parasite, from the time that the mosquito sucked into its stomach the blood of an infected bird, until the parasite reached the salivary glands of the insect. Later he succeeded in infecting healthy birds by allowing them to be bitten with infected mosquitoes. What Ross proved in connection with sparrow, or bird malaria, was taken up by Italian scientists, especially Prof. Grassi, who worked out a similar relation between the anopheles mosquito and human malaria. Grassi was able to trace the whole process, step by step, bringing together and applying to the human parasite the knowledge gained by previous workers in different parts of the world, until at the present time no single point in the cycle of development is incomplete.

Dr. Patrick Manson, in 1900, conducted an experiment in London, to test the mosquito-malaria theory. It was not necessary that this should be done to prove the positiveness of the theory, but it served to add another link to the already long chain of evidence, proving that malaria is transmitted to the human being by the medium of the mosquito. For this experiment insects were infected in Italy, then sent to London, and allowed to feed on two men, Dr. Thurburn Manson and Mr. R. Warren of the London School of Tropical Medicine. In each case the fever developed exactly eighteen days after they were bitten, and the benign tertian parasites were found in their blood by competent observers.

Drs. Sambon and Low, with two others, in 1900, volunteered to spend the fever season in Ostia, Central Italy, the most malarial locality in the Roman Campagna, with no protection against malaria, except to avoid being bitten by mosquitoes between sunset and sunrise, the hours during which the anopheles usually bite. This protection they secured by means of a carefully constructed hut, the windows and doors of which were covered with wire gauze, into which hut they retired an hour before sunset. They moved freely about the country during the day time. They lived in this manner for a period of three months, using no quinin or other prophylactic, and not one of the four contracted malarial fever.

A control experiment was inadvertently made during their residence in Ostia. After the assassination of King Humbert, which occurred about that time, fifteen or sixteen police agents were sent to Ostia to arrest suspected anarchists. Though these police spent only a part of the night in the district, every one of them developed fever about two weeks later.

Experiments have also been made by the Japanese army on the Island of Formosa. Two companies of soldiers were stationed in a very malarial locality. The men of one company were very carefully protected from the bites of mosquitoes, and did not suffer from attacks of malarial fever, while those of the other company who were not protected from mosquito bites suffered severely.

Many similar experiments and scientific investigations have been made, so that we now know that a certain species of mosquito is, so far as is known up to the present time, the only natural means of transmission of malaria. The anophelina mosquitoes are the intermediary hosts necessary to complete the cycle of development in malaria. In the case of yellow fever it is a different species of mosquito (*Stegomyia fasciata*) that acts as the intermediary host. The conditions necessary for the existence of the parasites of human malaria and yellow fever are only to be found in the human blood, and in the particular species of mosquito.

Mosquitoes are never born with the disease, it is only when they are given an opportunity to suck the blood of a person having malaria or yellow fever, that they become infected. The parasites have never been found in water, earth or in the air. Experiments made in different parts of the world indicate that the infected mosquito does not transmit the infection to its offspring.

To become infected with malaria, the anophelina mosquito must bite a patient whose blood contains either pigmented spheres or crescent-shaped bodies. The sporulating form of the parasite will not infect the mosquito. It requires from seven to fourteen days, after the insect has bitten a case of malaria, before it is able to transmit the infection to a human being. This period constitutes the time necessary for the parasite to go through its cycle of development, and to reach the salivary glands. It is only then that the mosquito is able to infect. At the time of the next bite, while the insect is taking up blood with one tube, it is pouring out saliva from the salivary glands with another tube, and, with the saliva, the parasite of malaria.

A somewhat similar process takes place in connection with yellow fever, but the cycle requires at least twelve days. There is this difference, however, that to be infected with yellow fever, the *Stegomyia fasciata* must have bitten a patient during the first three days of the illness, otherwise it will not acquire the infection.

So far as we know, no other animal shares with the human being the capability to be the intermediary host of yellow fever, or of the human malarial parasite. Intracorpuscular parasites akin to malaria have been found in many animals, in cattle, horses, sheep, dogs, monkeys, frogs, bats, sparrows, finches, crows, hawks, owls, pigeons, blackbirds, etc., but the parasites are of a distinct species.

Dionisi has found a hematazoon of the bat, which resembles human varieties very much. Koch specially investigated the possibility of transmitting human malaria to the lower animals in Java. He used the orang-outang and hylobates, but failed entirely to produce the disease in these higher apes, as other investigators have failed with other animals.

Mattei injected blood of malarial patients into sixteen pigeons, with negative results. The same negative result was obtained in four instances, in which he injected the blood of infected birds into the arms of healthy men.

The incubation period of malaria in the human being, from the time of the bite by an infected mosquito, varies from two days to three weeks, depending on the particular kind of parasite, the amount of blood taken in by the mosquito, and its richness in parasites.

OPPOSING THEORIES.

It may seem absurd to take up the reasons, or at least some of them, that are given to combat the mosquito-malaria theory. However, it may not be out of place to mention a few of the objections:

Malarial Localities.—It is said that certain places are malarious, in which there are no mosquitoes. I think, if careful search were made, it would be found that the malarial bearing mosquitoes were present.

Foul Air of Swamps.—Some infer that the disease is acquired from foul air. The gas given off from the mud of stagnant pools and swamps has been found to be a compound of hydrogen and carbon-methane, or marsh gas, which can be easily proved to have nothing to do with the malarial infection.

Contaminated Water.—There are still a few persons who maintain that the disease is contracted by drinking infected water. It is possible that many of the supposed cases of malaria from drinking bad water were typhoid cases. Those who have studied the malarial parasites can not understand the possibility of the germ living or propagating in water of any kind.

Night Air.—The idea that people get malaria, as a result of being out at night, is explained by the fact that the anophelina, as a rule, only bite at night.

Upturned Earth.—Epidemics of malaria are known to break out among men engaged in work requiring uplifting of the soil. In these cases the infection is no doubt due to the fact that some of the new arrivals had malarial parasites in their blood when they came, also that conditions were more favorable for the breeding of mosquitoes, on account of the new pools and ditches formed during the digging operations.

It is important that we meet wrong ideas as to the cause of malaria, by disseminating the knowledge that we now possess, either by education or by vigorous sanitary laws if necessary.

YELLOW FEVER.

From observations made in connection with yellow fever, we have reason to believe that infection can not take place except in one of two ways, either by the bite of an infected mosquito, or by direct inoculation of infected blood. Over two hundred experiments have been made on human beings. About 128 of these experiments were mosquito inoculations; the persons being bitten by mosquitoes infected, or supposed to be infected, with the germ of yellow fever. The others were direct blood inoculations, except three. Two of the experiments consisted in making an excoriation on the skin, one centimeter square, by means of scraping and then applying a drop of virulent serum from a case of yellow fever. The result was negative. Another experiment was made, whereby a non-immune subject was allowed to drink water, in which had been triturated the bodies of four infected *Stegomyia fasciata* mosquitoes, the result being negative.

Dr. Charles P. Finlay, at the session of the Royal Academy of Sciences, in Havana, Cuba, August 14, 1881, first gave to the world his eventful theory of the transmission of yellow fever by the medium of the mosquito, reporting, at that time, a series of experiments that he had made on human beings, by which he claimed to have proved his theory. He was the pioneer in mosquito inoculations. From 1881 to 1900, Dr. Finlay, assisted by Dr. Claudio Delgado, performed over one hundred inoculations with supposed infected yellow fever mosquitoes. Time will not permit me to dwell on these experiments, I will simply read an extract of Dr. Finlay's original theory given out in August, 1881:

> Three conditions will, therefore, be necessary in order that yellow fever may be propagated: 1. The existence of a yellow fever patient into whose capillaries the mosquito is able to drive its sting and to impregnate it with virulent particles, at an appropriate stage of the disease. 2. That the life of the mosquito be spared after its bite on the patient until it has a chance of biting the person in whom the disease is to be reproduced. 3. The coincidence that some of the persons whom the same mosquito happens to bite thereafter, shall be susceptible of contracting the disease.

Dr. Finlay's theory was confirmed by the American Military Yellow Fever Commission composed of Drs. Reed, Carroll, Agramonte and Lazear. The positive results obtained by this commission, experimenting in Cuba in 1900 and 1901, proved beyond any question of doubt, that yellow fever is only contracted, naturally, by the bite of the mosquito. They also proved that contact with the patient, fomites, clothing, etc., plays no part in the transmission of the disease.

At the present time, Dr. Finlay explains the process of yellow fever infection in the following manner. He assumes that the germ is a two host, microscopic, perhaps ultra-microscopic endo-parasite of the female of a particular mosquito (*Stegomyia fasciata*). In order that it may complete its life cycle, perpetuate its species, and find its way into other healthy stegomyias, it is necessary that it should penetrate from an infected insect into the body of a non-immune person.

It appears that after the germ leaves the infected insect, and enters the body of the susceptible person, it passes through a certain cycle or evolution, requiring usually three to six days, although the period of incubation in the human being may be extended to at least thirteen days in exceptional cases.

Dr. Finlay holds that the penetration of the germ into the body of the non-immune, is intended for the accomplishment of its sexual reproduction, and that the analogy between it and the malarial parasite holds good, with the difference only, that the latter accomplishes this act in one of the anophelina mosquitoes, while the sexual cycle of the yellow fever germ is supposed to take place in the human host. He suggests the following as the probable cycle of development of the germ in the body of the contaminated mosquito:

a. Introduction of young sporozoits sucked up with the blood of the patient.
b. Growth of the sporozoits to adult age.
c. Formation of schizonts and merozoits.
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In the body of the non-immune, counting from the time of inoculation by the bite of the infected stegomyia, the following stages, in his opinion, are likely to occur during the period of incubation:

a. Localization of the gametes in appropriate sites.
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The following facts, in connection with yellow fever, are now very generally admitted:[1]

1. The only natural method that is known by which yellow fever is transmitted from the sick to the healthy person is by the bite of mosquitoes previously infected by biting a sick person in the first three days of an attack of yellow fever.

2. On the fourth day of the disease the blood no longer contains the virus of yellow fever, even when the fever is high.

3. Up to the present time it has not been proven that yellow fever is transmitted by any other species of mosquito except the one known as *Stegomyia fasciata.*

4. The infected mosquito is only dangerous after an interval of twelve days from the time that it has ingested virulent blood.

5. Contact with a patient, personal effects, clothing, excretions, fomites, etc., are incapable of producing yellow fever.

6. One-tenth of a cubic centimeter of virulent serum injected under the skin is sufficient to cause yellow fever.

7. The virus of yellow fever rubbed on the denuded skin does not give the disease.

8. The virus of yellow fever preserves its vitality and virulence in defibrinated blood for a period of five days, when protected from the air, preserved under liquid vaselin, at a temperature of 24 C. to 30 C. At the end of eight days under similar conditions the virus is no longer active.

9. Virulent serum exposed to the air at a temperature of 24 C. to 30 C. is inactive at the end of forty-eight hours.

10. The virulent serum becomes harmless after heating for five minutes at a temperature of 55 C.

11. In the serum of the patient the virus of yellow fever passes through a Berkenfeld or Chamberland filter without dilution, providing the density of the filter is not too great.

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18. Neither in the mosquito nor in the blood or any other tissue has anyone succeeded in discovering the germ of yellow fever.

EXTERMINATION OF HUMAN MALARIA.

We have reason to believe that human malaria would disappear from the world, if any of the following methods could be put into effect:

1. If the parasites could be eliminated from the blood of all malarial persons by quinin or other method. This is difficult, because we could never get at all infected persons.

2. If all healthy mosquitoes could be prevented from biting infected persons; or if infected mosquitoes could be prevented from biting healthy persons. This method would be practicable if everybody were to adopt preventive measures against the mosquito.

3. If all the anophelina mosquitoes could be destroyed. This is possible if all the people in all localities of all countries begin, and keep up, a vigorous crusade against the mosquito in all its stages.

Unfortunately, not one of these methods is capable of universal application, and while we may or may not be able to entirely eliminate malaria, there is no question of doubt but that we can reduce the number of cases to a minimum.

EXTERMINATION OF YELLOW FEVER.

From the positive results obtained in Cuba in 1901, under the direction of Col. W. C. Gorgas, of the American Government of Intervention, and still maintained by the Cuban sanitary authorities, we have reason to state positively that yellow fever could be eliminated from the world by the use of measures similar to those used in Cuba, as follows:

1. Destroy as many mosquitoes as possible, so as to limit the number of insects capable of transmitting the disease. We know that if there were no mosquitoes there would be no yellow fever.

2. Prevent mosquitoes from biting yellow fever patients. If we prevent the mosquitoes from getting infected we also prevent yellow fever. This is, perhaps, the most important measure, namely, strict mosquito-proof isolation of all cases of yellow fever and all suspicious cases.

3. Destroy, by thorough fumigation, all mosquitoes that may have become infected by biting yellow fever cases.

EXTERMINATION OF FILARIASIS.

We know that both culex and anophelina species of mosquitoes act as intermediary hosts of the filaria; the worm going through its cycle of development in the body of the insect. After a period of days the insects infect. At the time of the next bite, while the insect is taking up blood with one tube, it is pouring out saliva from the salivary glands with another tube, and, with the saliva, the parasite of malaria.

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A somewhat similar process takes place in connection with yellow fever, but the cycle requires at least twelve days. There is this difference, however, that to be infected with yellow fever, the *Stegomyia fasciata* must have bitten a patient during the first three days of the illness, otherwise it will not acquire the infection.

So far as we know, no other animal shares with the human being the capability to be the intermediary host of yellow fever, or of the human malarial parasite. Intracorpuscular parasites akin to malaria have been found in many animals, in cattle, horses, sheep, dogs, monkeys, frogs, bats, sparrows, finches, crows, hawks, owls, pigeons, blackbirds, etc., but the parasites are of a distinct species.

Dionisi has found a hematazoon of the bat, which resembles human varieties very much. Koch specially investigated the possibility of transmitting human malaria to the lower animals in Java. He used the orang-outang and hylobates, but failed entirely to produce the disease in these higher apes, as other investigators have failed with other animals.

Mattei injected blood of malarial patients into sixteen pigeons, with negative results. The same negative result was obtained in four instances, in which he injected the blood of infected birds into the arms of healthy men.

The incubation period of malaria in the human being, from the time of the bite by an infected mosquito, varies from two days to three weeks, depending on the particular kind of parasite, the amount of blood taken in by the mosquito, and its richness in parasites.

OPPOSING THEORIES.

It may seem absurd to take up the reasons, or at least some of them, that are given to combat the mosquito-malaria theory. However, it may not be out of place to mention a few of the objections:

Malarial Localities.—It is said that certain places are malarious, in which there are no mosquitoes. I think, if careful search were made, it would be found that the malarial bearing mosquitoes were present.

Foul Air of Swamps.—Some infer that the disease is acquired from foul air. The gas given off from the mud of stagnant pools and swamps has been found to be a compound of hydrogen and carbon-methane, or marsh gas, which can be easily proved to have nothing to do with the malarial infection.

Contaminated Water.—There are still a few persons who maintain that the disease is contracted by drinking infected water. It is possible that many of the supposed cases of malaria from drinking bad water were typhoid cases. Those who have studied the malarial parasites can not understand the possibility of the germ living or propagating in water of any kind.

Night Air.—The idea that people get malaria, as a result of being out at night, is explained by the fact that the anophelina, as a rule, only bite at night.

Upturned Earth.—Epidemics of malaria are known to break out among men engaged in work requiring uplifting of the soil. In these cases the infection is no doubt due to the fact that some of the new arrivals had malarial parasites in their blood when they came, also that conditions were more favorable for the breed- mosquitoes, on account of the new pools and the digging operations.

It is important that we meet wrong ideas as to the cause of malaria, by disseminating the knowledge that we now possess, either by education or by vigorous sanitary laws if necessary.

YELLOW FEVER.

From observations made in connection with yellow fever, we have reason to believe that infection can not take place except in one of two ways, either by the bite of an infected mosquito, or by direct inoculation of infected blood. Over two hundred experiments have been made on human beings. About 128 of these experiments were mosquito inoculations; the persons being bitten by mosquitoes infected, or supposed to be infected, with the germ of yellow fever. The others were direct blood inoculations, except three. Two of the experiments consisted in making an excoriation on the skin, one centimeter square, by means of scraping and then applying a drop of virulent serum from a case of yellow fever. The result was negative. Another experiment was made, whereby a non-immune subject was allowed to drink water, in which had been triturated the bodies of four infected *Stegomyia fasciata* mosquitoes, the result being negative.

Dr. Charles P. Finlay, at the session of the Royal Academy of Sciences, in Havana, Cuba, August 14, 1881, first gave to the world his eventful theory of the transmission of yellow fever by the medium of the mosquito, reporting, at that time, a series of experiments that he had made on human beings, by which he claimed to have proved his theory. He was the pioneer in mosquito inoculations. From 1881 to 1900, Dr. Finlay, assisted by Dr. Claudio Delgado, performed over one hundred inoculations with supposed infected yellow fever mosquitoes. Time will not permit me to dwell on these experiments, I will simply read an extract of Dr. Finlay's original theory given out in August, 1881:

> Three conditions will, therefore, be necessary in order that yellow fever may be propagated: 1. The existence of a yellow fever patient into whose capillaries the mosquito is able to drive its sting and to impregnate it with virulent particles, at an appropriate stage of the disease. 2. That the life of the mosquito be spared after its bite on the patient until it has a chance of biting the person in whom the disease is to be reproduced. 3. The coincidence that some of the persons whom the same mosquito happens to bite thereafter, shall be susceptible of contracting the disease.

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We know that both culex and anophelina species of mosquitoes act as intermediary hosts of the filaria; the worm going through its cycle of development in the body of the insect. After a period of days the insects are capable of transmitting the infection to human beings. We can only expect to exterminate, or at least diminish the disease, by similar methods as against yellow fever:

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1. Compulsory mosquito-proof isolation.
2. Thorough fumigation of patients' quarters, etc.
3. Destruction of all mosquitoes in all their stages.

QUARANTINE.

We should endeavor by all means possible to prevent importation of all persons having transmissible diseases. Quarantine, if strict, will exclude yellow fever and diminish malaria in any country. However, should yellow fever gain entrance to a place, it is easy to control and exterminate by the methods above mentioned.

All persons on steamers, coming from countries where yellow fever is prevalent, should not be allowed to land until a period of five days has elapsed, counting from the time that the steamer set sail from the infected port, and providing no suspicious case has occurred during the trip. If there has been a suspicious case of sickness on board, quarantine should be enforced for at least five days after arrival of steamer. (Persons who present a satisfactory certificate of immunity, may be allowed exemption from quarantine.) The temperature of all persons in quarantine should be taken morning, noon and night, and any one having the least rise of temperature should be at once placed in a mosquito-proof isolation hospital for further observation.

Even if no sickness has occurred on the steamer, quarantine should be enforced for at least one day after arrival of a steamer from a malarial infected country. Temperature of all persons should be taken, and any one having a rise of temperature, sufficient to arouse suspicion, should have his blood examined and, if found to contain malarial parasites, he should be detained in a mosquito-proof hospital, and put under medical treatment until the parasites are known to have disappeared from the peripheral blood, before he is allowed to land.

INFECTED PERSONS.

When persons are found to have malaria or yellow fever, they should be compelled to undergo isolation in mosquito-proof rooms. The bed should also be covered with mosquito gauze so as to afford double protection. In the case of malaria, the patients need only be protected, as a rule, between sunset and sunrise, the time that the anophelina usually bite. In yellow fever, the patients should be protected against mosquitoes day and night, during the early stages of the disease. All persons suspected of having yellow fever must be reported to the board of health, who will immediately arrange to have the patient conveyed in a mosquito-proof ambulance to a specially constructed mosquito-proof hospital. The patient should be covered while being carried to the ward, so as to prevent any possibility of being bitten by mosquitoes. When the patient is inside the special hospital, all danger of spread of the disease is eliminated.

After removal of the suspected patient from his quarters, all the rooms in the building, and in the adjoining houses, must be immediately fumigated, so as to kill any mosquitoes that may have bitten the patient. All persons employed to fumigate rooms should be immune to yellow fever.

METHOD OF KILLING INFECTED OR NON-INFECTED MOSQUITOES.

All rooms or buildings must be tightly sealed before commencing fumigation. This work should be done with care so as not to disturb the mosquitoes in the rooms, to the effect that they might escape. Men employed in fumigating work can secure temporary protection against the bites of infected mosquitoes, by rubbing exposed surfaces of skin with oil of citronella, pennyroyal, or 5 per cent. menthol ointment.

Sulphur.—This is the quickest and most effective agent to kill mosquitoes in rooms, destroying even hibernating forms; but its use is objectionable because it tarnishes metals and bleaches fabrics. From one to four pounds of sulphur to one thousand cubic feet of space should be burnt. A small amount of alcohol is added to the sulphur, and, after igniting, everything should be closed tight for a period of from one and one-half to four hours. Pans of water should be placed in the room.

Datura Stramonium.—The powdered leaves and stems of the Jimson weed mixed with saltpeter and burnt, kills hibernating mosquitoes. The proportion used is one ounce of the mixture to each two hundred cubic feet of space. It is the only cheap, safe and effective material for the purpose and was worked out by Mr. George Keller of Newark, N. J., for the New Jersey Mosquito Commission.

Pyrethrum Powder.—Use from one to six pounds for each one thousand cubic feet of space, and expose from three to six hours. This has been found useful, but does not certainly kill mosquitoes, but stupifies them so that they drop to the floor. When the rooms are opened up, the insects must be swept up and burned at once. It is said to be ineffective against hibernating forms.

Formaldehyde Gas.—This is effective against active summer mosquitoes if rooms are kept closed and tightly sealed for two or three hours. Generally use one liter of formalin to one thousand cubic feet of space. It is said to be ineffective against hibernating forms.

TO DESTROY MOSQUITOES IN THEIR EARLY STAGES.

It is while the insects are in the aquatic form that successful extermination can be made, and especially while they are in the larval stage. On account of the difference in the breeding places of the yellow fever and malarial bearing mosquitoes it is best to consider them separately.

YELLOW FEVER MOSQUITO.

This insect prefers to breed in water, in rain-water barrels, cisterns, tubs, cans, bottles or any receptacle containing water. This does not necessarily have to be rain-water.

City or state laws should be in force during the breeding season making it a penalty for any one to be found harboring larvæ, commonly called wrigglers or wiggle tails, around their premises. No water should be allowed to stand in any receptacle, unless it is covered, so that no mosquitoes can enter. The sanitary inspectors should receive special instructions to see that the laws are complied with. They should be provided with petroleum distributing cans, to pour oil on all uncovered, still or slowly moving water that they may find. Generally use about two teaspoonsful to the barrel, or one ounce to each fifteen square feet of water. Rain-water barrels and cisterns should be abolished by furnishing a cheap water supply. However, in localities where receptacles for water are absolutely necessary, make it compulsory that they be mosquito-proof. A strong, tight-fitting lid can be made, having a small space in the center about six inches square. This space is to be covered with fine wire gauze to prevent mosquitoes from entering, and still allow enough ventilation for the water. Surface drainage should be abolished wherever possible. Ditches and open drains should be cleaned occasionally and thoroughly flushed. Pools or ponds that cannot be drained should be filled in with sand or other material, or stocked with fish, or treated once a week with petroleum.

ANOPHELINA OR MALARIAL BEARING MOSQUITO.

This insect breeds in water in puddles, in hollows made by the hoofs of cattle, in pools, ditches, sluggish streams and especially in swamps. In order to prevent such accumulations of water, make superficial drains through swamp lands, or eliminate the water by filling in with sand or earth. Remove the grass and weeds from the edges of pools, streams and ditches. See that irrigation is conducted under restrictions. Pour oil over surface of water where it is practical; this forms a thin film over the surface which kills the larvæ and pupæ by preventing them from breathing. Renew the application once a week. It is doubtful whether the use of oil is successful in the treatment of swamp lands, and it is better to have these filled in or drained.

LARVICIDES.

The New Jersey Mosquito Commission have experimented with various larvicides, with the following results:

Crude Petroleum.—This may be used to kill larvæ as well as adults that attempt to lay eggs. It is useful on salt and fresh water but does not spread rapidly.

Kerosene.—This has the same effect as crude petroleum, but spreads better.

Fuel Oil.—This is like kerosene, but cheaper, somewhat heavier, and more lasting. It spreads equally well on salt or fresh water. It is the most effective mineral oil.

Chloronaptholeum.—This is a creosol preparation, mixes readily with fresh water and kills mosquito larvæ in proportions of 1 to 1,000. Good for gutters and lot pools. Useless in salt water.

Phinotas Oil.—This is a creosol combination. It is the most effective larvicide known. Kills everything from larvæ to fish. Especially useful in sewer basins, gutters, cesspools, etc. Does not work with salt water.

THE ELEMENTS OF DIAGNOSIS OF CUTANEOUS SYPHILIS.*

E. A. FISCHKIN, M.D.,

Adjunct Professor of Dermatology, College of Physicians and Surgeons; Attending Physician (X-Ray Department), Cook County Hospital; Dermatologist, Norwegian Lutheran Deaconess Hospital.

CHICAGO.

The difficulties in the diagnosis of syphilis have been admitted by the most skillful diagnosticians. The reason for this is that the cutaneous manifestations of syphilis may be imitated by quite a number of other less obnoxious skin diseases and that syphilis may often appear in forms which simulate the lesions of other dermatoses. As Dr. White says, the skin, by its comparatively simple structure, is incapable of displaying a large variety of pathologic manifestations, and the limited number of skin lesions are therefore reappearing in a large number of morbid conditions.

No less an authority than Kaposi says:

> The syphilids do not offer any other morphologic properties than the non-syphilitic dermatoses, as they all appear in macules, papules, pustules with secondary formation of scales and crusts. Their unquestioned specific clinical features, by which they can be distinguished from all other non-syphilitic dermatoses, and which impress us as peculiar typical syphilitic symptoms, are therefore not based on their morphologic properties, neither do they depend, as it is often taught, on certain physical properties, as the sepia (copper) brown color, their predominant localization on the flexor surfaces and around the orifices of the body, their symmetrical distribution, circinate appearance, formation of groups, their polymorphism, excessive formation of crusts and scales and absence of *itching*. For all these external features are encountered also in the non-syphilitic eruptions.

The specific properties of the syphilids are said to be the sum total of the phenomena which compose the pathologic-anatomic course of the individual lesion of which we distinguish three cardinal anatomic features:

1. The products of cutaneous syphilis are all equally composed of a uniform cellular infiltration of the papillary body and the corium and vary only in size.

2. The cells do not show a tendency to form a lasting organization into connective tissue, but undergo retrogression and complete involution.

3. The growth and consummation of the infiltrate follow in certain order and direction. They spread and disappear centrifugally.

But the peculiar specific clinical characteristics of the lesions of syphilis, if determined by these pathologic-anatomic features, are not pathognomonic of syphilis exclusively; they are the clinical expression of cellular infiltration of the papillary body in general and are everywhere met where there is such infiltration.

1. The dense sharply defined cellular infiltration of the corium and papillary layer which is manifested clinically by a papular elevation is not the exclusive feature of secondary syphilis. It is encountered in a large number of other skin diseases, such as chronic eczema, psoriasis, lichen planus, herpes tonsurans, pityriasis rubra, lupus erythematosus, etc.

2. They all show the essential feature that they do not form lasting organizations. They are distinguished by these very same features, which permit a *restitutio ad integrum* from the granulomata, in which proliferating cells undergo further development and formation of new tissue (tuberculosis, leprosy, syphilitic gummata, etc.).

3. The centrifugal spread of the infiltrate is not the expression of the pathologic process, but is determined by the anatomic structure of the skin. It is not the morphologic expression of a specific disease, but is encountered in all morbid processes in the vascular cutis, as, for instance, the different forms of erythemata, psoriasis, scleroderma, pityriasis rubras, etc. All diseases, the pathologic processes of which are confined to the papillary layer or around the blood vessels, are marked by a circular spread, due to the fact that the blood vessels perforate the tissue in all directions which permit a free, that is, a circular spread of the pathologic process.

If these three cardinal symptoms are not characteristic for the pathologic process of syphilis, neither can the clinical phenomena derived from them be regarded as peculiar to the syphilitic infiltrate only. In fact, all the characteristic symptoms which have been ascribed to the papules of syphilis can be applied as well to the papules of lichen planus.

If we analyze the characteristic clinical features of the syphilids, we see that none of them is conditioned by the specific process, and that they all have their

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[*] Read before the Chicago Medical Society.

origin in external circumstances which may vary in individual cases.

The general characteristics of the syphilids which we are taught render their recognition more certain are color, resistancy, surface, localization, central depression and scaling, polymorphism and the chronological sequence and course of eruptions.

COLOR.

The color is not due simply to local hyperemia since it does not disappear on pressure. It is undoubtedly a deposit of some coloring matter in the tissues; but what this substance is and how it is deposited there, is still a matter of discussion. Kaposi says that the specific diathesis may have some part in the production of discoloration. Cornil says that the color is due to extravasation of red blood corpuscles. Neuman intimates that the discoloration is due to pigmented round cells. Kreibich tried to reproduce this color artificially and has found that the color is composed of equal parts of red and brown with the addition to this composition of a trace of black which gives to the resulting color a sombre hue (color tristis). Red is the color of inflammation produced by arterial congestion. The more the blood vessels are dilated and filled (in the beginning of the inflammation) the more will the red predominate. In this state, that is in recent eruptions, we see the roseola syphilitica resembling the roseola vulgaris; brown is the color of the cellular infiltrate coming from the deeper parts; black is the color of blood pigment. It is easy to comprehend that the resulting color can not be constant because its components are subject to variation in the different stages of the disease, or under different circumstances. The red is predominant in recent eruptions, as also in all lesions which contain a permanent cause of irritation, as for instance in the pustular syphilids; or in cases in which the infiltrate is less marked, as in the small papular syphilids. In anemic persons, in whom the hyperemia is less marked, we find the color more brown; on the lower extremity, the lesions are colored bluish-red, due to venous stagnation. These conditions being variable, we cannot assign to the color any absolute value as an element of diagnosis.

RESISTANCY.

This, also, is not a constant symptom. It changes with the degree of infiltration diffused between the meshes of the connective tissue. The flat papule with less infiltration feels less hard to the touch than the thick, round papule.

SURFACE.

This is mostly smooth and shiny, due to stretching of the epidermis, and is naturally not an exclusive character of the syphilids but is met in every cellular infiltration of the cutis which is covered by an unaltered epidermis, as for instance, in lichen planus.

LOCALIZATION AND DISTRIBUTION.

The earlier syphilids are symmetrical and with lesions profusely distributed, but this symptom is found also in other disease in which the pathologic process is localized around the blood vessels and, perhaps, carried by them, as in leprosy, mycosis fungoides and other granulomata. It is true that the eruption has certain prevailing localities, as the proximal portions of the extremities, the chest, forehead and some parts of the face (especially in seborrhoics). This peculiarity, however, is conditioned, not by the specific process, but by external circumstances which produce for the process a *locus minoris resistentiæ*; 1, on places where the skin is more pressed to the bones and therefore more stretched, and 2, on places which, by their mobility, are more exposed to injuries of a mechanical, physical or chemical nature, as the mucous patches on the tonsils—due to the irritation by the act of swallowing, or the condylomata around the anal orifice—due to irritation by excretions.

POLYMORPHISM.

The multiformity of lesions and their co-existence in the various stages of development is often of value in the diagnosis of syphilis. Polymorphism, however, is not constantly present, and besides we may see it in non-syphilitic dermatoses. The difficult cases are just the ones in which there are only a few perhaps uniform efflorescences and in which it is necessary to determine whether or not it is syphilis.

This arbitrary value of the diagnostic elements of syphilis may be the reason why the importance of two other elements is usually emphasized in determining the diagnosis. These are: (1) The ensemble, or the general impression of the whole complex of existing symptoms; (2) the chronological order in the development of the individual symptoms and the intervals between their appearance.

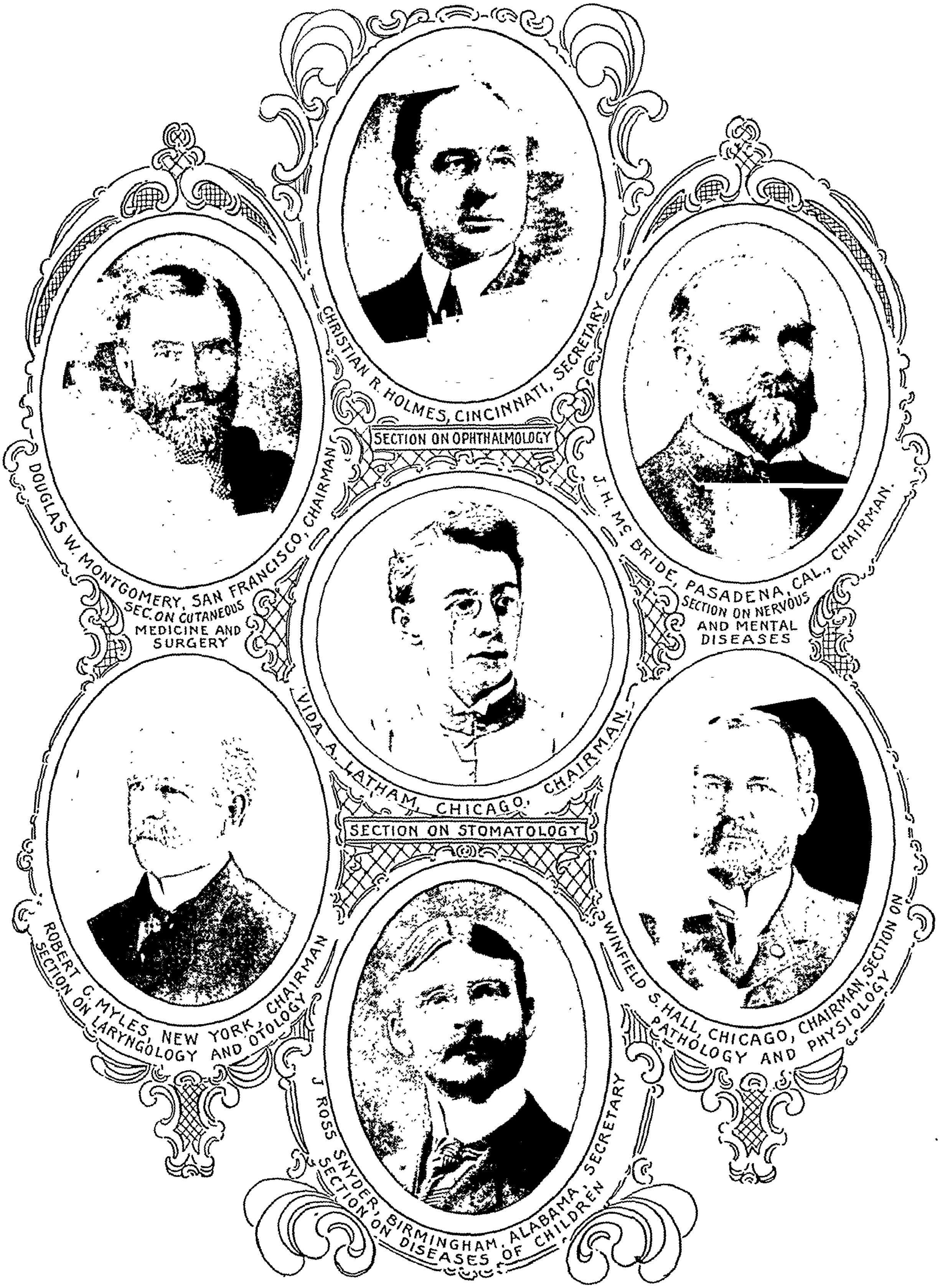
These two conditions, the ensemble of suspicious symptoms of which each by itself may not suffice for a correct diagnosis, and the chronological order of their appearance in intervals corresponding with the classical periods of syphilis, have always been regarded as of the greatest significance and as the most reliable elements of diagnosis in cases of doubtful cutaneous eruptions. By force of habit and power of logic, we are ready to accept the presence of striking symptoms as unmistakable proof of the existence of a disease in which alone these symptoms prevail, and do not hesitate to make a diagnosis of syphilis in cases in which, after an exposure to possible venereal infection, a primary lesion on the genitals is followed by swelling of the inguinal glands and where, in due time after, a cutaneous eruption appears which may be interpreted as some one of the secondary lesions of syphilis.

The object of this paper is to illustrate the possibility of coincidental existence of these conditions in nonspecific cutaneous diseases by cases which have come under my observation, and in which the different manifestations appeared in intervals corresponding to the classic periods of syphilitic incubation.

Case 1.—A young man, aged 25, was referred to me by Dr. P. Sisman, with the following note:

"Patient has a sore on the ventral aspect of his penis and enlarged, painful inguinal glands on the right side. The history is as follows: He had sexual intercourse on October 28. About a week or ten days later, he began to feel an itching of the penis, and soon after several small vesicles appeared on its dorsal surface. About November 9, he noticed a pustule on the ventral aspect of the penis which has since enlarged and developed into the present sore. About the first of this month (December) he began to feel pain in the groin, the glands soon became swollen, about the tenth of this month an eruption appeared on abdomen, navel, axillæ, chest, and in the lumbar region. The itching has continued during that time. I have advised the patient to try to bring the woman in the case for the purpose of confrontation, but he did not succeed in doing so."

Examination.—On the ventral side of the penis there was a "pustulo-crustaceous" sore about one-half inch in diameter, which, on removal of crusts, showed deep edges and a red granulating somewhat indurated base. On the prepuce, and near the root of the penis, there were several large papules. Around the umbilicus there were a few larger elevations cov-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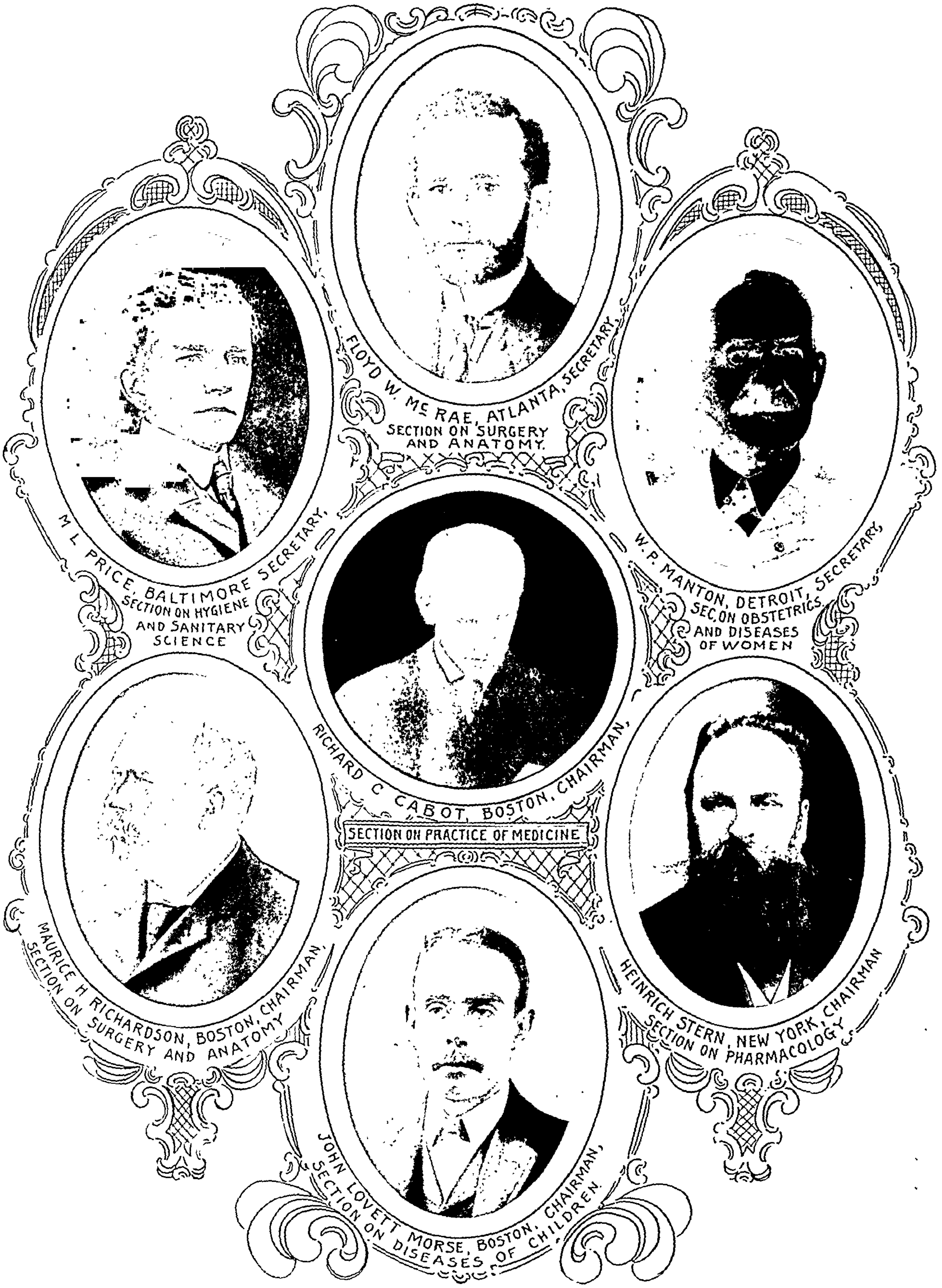
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ered with characteristic scabies crusts, and there were similar lesions on the abdomen and near the axillæ. On the trunk and extremities there were red exudative papules. The inguinal glands were enlarged, somewhat indurated, and sensitive.

The diagnosis of scabies is here apparent, but the history of the case, the induration of what could be regarded as the primary sclerosis and the chronological order in appearance of the adenopathy and the cutaneous eruption, justified the physician in thinking of the possibility of syphilis, either pure, for syphilitic eruptions especially of the genitals may sometimes be accompanied by itching, or of syphilis in combination with scabies. Such combinations have been reported to alter considerably the usual symptoms of both.[1]

I could exclude syphilis in this case for the reason that the elementary lesion of syphilis was absent; the papules were all exudative and not infiltrating, while the element of scabies was present. This element, as I have observed, is the characteristic crust formed over the patches of scabies. The patches, being exudative, prevent a perfect drying up of the crust and the crusts of scabies are, therefore, always mixed with products of acute exudation. They are made up of dried material interspersed with glistening droplets of exuded serum.

Case 2.—A druggist, aged 22, contracted a gonorrhea, complicated, according to his diagnosis, with a soft ulcer of the glans, some eight weeks previously. He treated himself with injections and by cauterization of the sore. Three weeks later, there was a painful swelling of the inguinal glands, which were reduced in size and sensitiveness by pressure bandages applied by a physician. This was followed by the appearance of red scaly papules over chest and thighs.

Examination.—Chronic posterior gonorrhea. On the glans there was a slight infiltration of brownish red color on place of previous sore. The inguinal glands were moderately enlarged. On the chest, buttocks and thighs there were disseminated solitary papules varying from a pea to a dime in size, dry, covered with thin, muddy, gray scales accumulated over the center of papules leaving the periphery smooth. The eruption was not accompanied by itching.

The difficulties which may confront the diagnostician in differentiating the lenticular papular syphilid from an atypical form of psoriasis (seborrhoic dermatitis) are well known. The authorities lay stress on the difference in the scales of these two lesions. The scales of syphilis are smaller, thicker, less abundant, of a dirty gray color and often do not entirely cover the lesion. The scales in psoriasis are larger and more lustrous, of a silvery or whitish appearance, distinctly imbricated and more freely produced and shed.[2] Other text-books state that the scales of syphilis are developed over the center of the lesion and rarely extend to the periphery.[3]

I have tried to study the scale formation on the papules of syphilis in quite a large number of cases which I had the opportunity to observe in the last few years. Scales are not present in all papules, and the very recent ones do not show any scaling. Later, scales begin to accumulate at the center, but may also cover the whole surface and when they become loose adhere only to the periphery. From my observations I am inclined to believe that the adhesion of the scales to the periphery constitutes a peculiarity of syphilis.

In trying to remove the syphilitic scale by scratching or even slight friction, the center may be entirely denuded while at the periphery a ring of scales remain with the detached side towards the center. I believe this phenomenon can be explained by the difference in the formation of both. The scaling in syphilis is produced by the mechanical detachment of the corneous layer due to the cellular infiltration of the cutis, while the scaling in psoriasis is due to epithelial proliferation and excessive cornification of the epidermis; both of these processes are more pronounced in the center. For this reason, the scales of psoriasis are here accumulated more and more closely attached, while in syphilis, on the contrary, they are more easily detached in the center on account of the greater mechanical pressure from beneath. This difference in the scales enabled me to make a diagnosis of psoriasis in this case. A few *x*-ray exposures brought about the disappearance of the eruption.

Case 3.—I saw this patient through the courtesy of Dr. N. Remmen.

History.—The patient, a widower, aged 47, noticed a sore on the prepuce some seven weeks previously. Two weeks later, the inguinal glands became noticeably enlarged. Two weeks ago, that is, five weeks after the appearance of the sore, and three weeks after the adenopathy, an eruption appeared on his body.

Examination.—The patient is a robust, stout man; there was no trace of the primary sore. The inguinal glands were somewhat indurated, though not much enlarged, with some tenderness on pressure. The lesions were dark brown, somewhat elevated, slightly scaling, and in size from pinhead to pea. Parts affected: face, over eyebrows and bearded region; back of left hand and elbow, right arm, elbow, and under arm. There were scattered lesions of larger size (about a dime) over the shoulders, buttocks and thighs. Between the shoulders there was a characteristic irregularly outlined area, size 3x1-3 inch, of eczema seborrhoicum. There were scattered papules also on the chest and abdomen. On the glans penis, there were a few papules, and on the prepuce near the sulcus there was a ring of shiny papular elevations. The color was somewhat lighter on the larger lesions than on the small papules, and capillary bleeding could be provoked in some. The patient never had psoriasis before nor had any one in his family.

Treatment.—A reducing ointment (acid pyrogall. comp.) caused the disappearance of the eruptions in two weeks.

Case 4.—I saw this patient in consultation with Dr. I. M. Lang.

History.—The patient, aged 38, had acquired an ulcer of the glans eight weeks previously. Slight induration of the base made the differential diagnosis uncertain. On application of an antiseptic dusting powder, the ulcer healed in two weeks. Six weeks later, a maculo-papular eruption which soon became intermingled with pustular lesions appeared, first on arms and backs of hands, and then on trunk and face. The great resemblance of the lesion to syphilodermata induced the physician to invite consultation.

Examination.—On the face there were large macular lesions of bluish red color, varying in size from 1/4 to 1/3 inch in diameter, and resembling very much a roseola syphilitica. On the chest, in addition to macules of the same character, there were papules, mostly oval in form, dark red in color, size of split pea and larger, some depressed in center, and the surface smooth, without scales. On the back there were maculo-papular lesions of the same character; in the interscapular region there were longitudinal patches of pointed small papules with vesiculo-pustule in center, resembling acne syphilica, some of them covered with dry crusts. The arms and especially the backs of the hands were covered with oval, dusky red papules. The lower extremities and genital regions (scrotum) showed the same papular lesions. There was no adenopathy, neither were there mucous patches in the oral cavity. The lesions did not itch.

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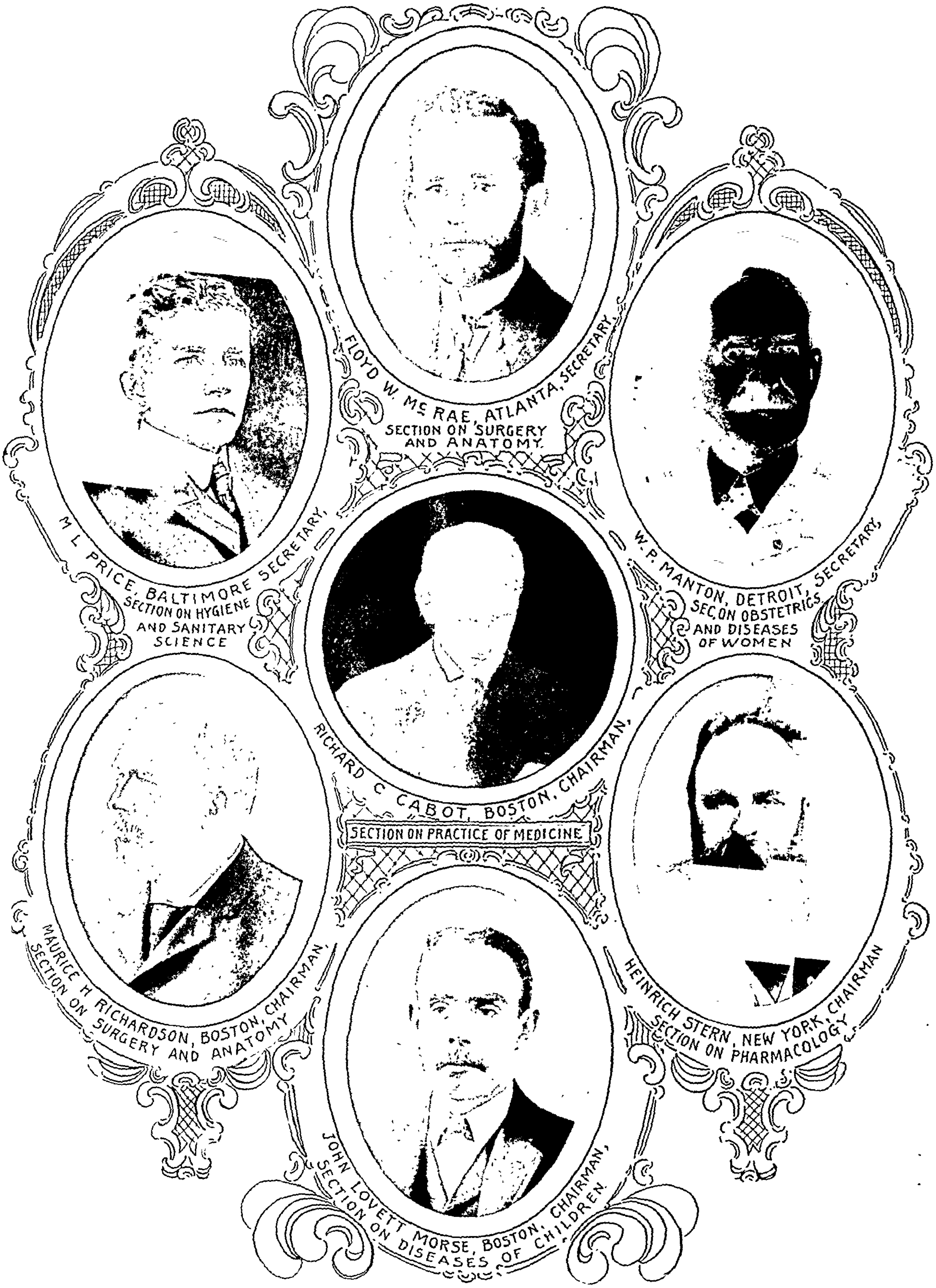
1. Sibut. Jour. des Malad. Cut. et. Syph., 1898.
2. Prince A. Morrow's System.
3. Kaposi, Shoemaker.



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The negative features of the disease rather than the positive, the absence of the lesions on the flexor surface of arms and palms and the absence of a typical syphilitic papule, induced me to diagnose the case as erythema multiforme.

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[1] Sibut. Jour. des Malad. Cut. et. Syph., 1898.
[2] Prince A. Morrow's System.
[3] Kaposi, Shoemaker.

The similarity of erythema multiforme to syphilis may be still more striking, as is illustrated by the following case:

CASE 5.—A florist, aged 24 entered the county hospital on January 6, 1904, with the following history:

History.—Two months previously, a sore the size of thumb nail appeared on the side of the prepuce, coming on 10 days after exposure to venereal infection. He was told by a physician that it was syphilitic and began taking mercury. Four days later, an enlargement of the inguinal glands appeared, followed by the appearance of red spots on the back of the neck. These subsequently spread rapidly over the body. He became hoarse, his mouth became sore, and the red spots over his body began to blister.

Examination.—The patient is a medium-sized, well-developed man. The skin almost all over the body was covered wilth a macular and papular eruption occupying large surfaces of face, neck, trunk and extremities. The upper part of the body was affected more than the lower. On the face, there were papules varying in size from a pea to a dime, brownish red, not much elevated and more macular than papular. On the external corners of the eye the papules were umbilicated and covered with light crusts. The neck presented large patches 1x1½ inches, each having darker color in center with detachment of epidermis above the spots. The chest showed still larger lesions, size from half-dollar to a dollar, running together in large patches presenting a variety of colors, the center was dark and livid, and covered with either a small vesicle or a thin crust. Around them there was a zone of vermilion color surrounded by a slight pink which gradually ran into healthy skin; each patch was raised about 1/16 inch above the healthy skin. The arms were affected more on the extensor surfaces, having similar lesions to those just described. The papules were smaller on the back of the hand: on the palms, the macules were the size of a pea, brownish in color and glistening from beneath the epidermis; the fingers were diffusely livid red. Here and there were a few vesicles. On the legs there were only a few disseminated papules, but the feet, especially the soles, were diffusely red and swollen, making it impossible for the patient to walk. The scrotum and penis were red and macerated. The penis showed much purulent secretion. The ears were livid and diffusely swollen. The lips were dry, and presented some ulcerations and fissures on the corners. In the oral cavity there were congestion and edema of the mucous membrane, plaques on the tonsils, and foul breath. There was generalized adenopathy.

In this case, in spite of the striking history, the existence of many symptoms of syphilis, the stomatitis, adenopathy, etc., I excluded syphilis because the typical element of secondary syphilis was absent and made a diagnosis of erythema multiforme because the symptoms of this disease, the main element of which is an erythema of the skin combined with an exudative process in the cutis, were marked.

The papule of erythema being exudative, disappears on pressure while the cellular infiltration of the syphilitic papule can not be pressed away. The color of erythema is red, shading to vermilion, with a livid spot in the center, while the papules in syphilis are dark, livid brown, with an atrophic white umbilication in the center. The surface of the papule in erythema is smooth, in syphilis scaly, and its size much smaller, more circular and circumscribed. Erythema multiforme may complicate syphilis, or may be the direct result of the syphilitic poison circulating in the vascular system, or of the mercurial treatment. Cases of this kind have been observed by a number of writers (Finger, Neuman, Danielson and others), and they have all come to the conclusion that there must be some connection between the two diseases, that syphilis may facilitate the appearance of erythema multiforme. This causal relation may have existed in Case 6. The patient may have been a syphilitic or the erythema may have been produced by the mercury which he had been taking for two months. The salient point was to ascertain whether the visible symptoms were those of syphilis, which was important for the treatment to be employed, and for the reasons mentioned I could answer this question in the negative. Salicylates internally and astringent applications externally reduced the manifestations of the disease in a very short time. When the patient left the hospital after two weeks, the red areas had almost completely faded, leaving only slightly pigmented spots. The swelling of the soles of the feet had disappeared and the patient could walk without pain; the lips were normal and the fissures had healed. Cases of this kind are not rare. Lau[4] reported a case of relapsing erythema multiforme, which was mistaken for syphilis and the patient repeatedly treated with mercury in different institutions and bathing resorts, so that he consumed in all about 4 pounds of blue ointment.

CONCLUSIONS.

Summarizing these observations, I would formulate my conclusions as follows:

1. The elements of diagnosis in cutaneous syphilis have only an arbitrary value.
2. The element of time is an unreliable factor in the diagnosis of syphilis. It may happen that simple sores with consequent swelling of the glands will develop in intervals corresponding to the periods of syphilis.
3. The regionary lymphadenitis is not absolutely pathognomonic for syphilis. We may see adenitis of inguinal and cubital glands following infection of simple wounds which have the characteristics of syphilis, viz., they are indolent and indurated.
4. The ensemble of all syphilitic symptoms, in exceptional cases, may be closely imitated by non-specific dermatoses. The diagnosis of syphilis can be made with absolute certainty only when based on positive as well as on negative findings, that is when we not only find the characteristic elements of syphilis, but when we can with certainty exclude all other skin diseases which may appear under the similar symptoms.

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THE PRACTICAL SIGNIFICANCE OF CERTAIN COMMON SYMPTOMS IN THE UPPER ABDOMEN.

J. F. PERCY, M.D.
GALESBURG, ILL.

The upper and right hand corner of the abdomen is a field of present-day investigation which promises valuable returns for all efforts made to clear up its symptomatology. It has fallen to the lot of a new candidate for honors in the field of human diagnostic investigation to aid in this beneficent work, viz., the skilled operating surgeon. Surgery to-day, in the hands of the competent surgeon, bids fair to state definitely the reasons for the existence of the symptoms in the upper belly, long recognized by the internist. But neither the internist nor the pathologist, dealing, as they must, with things unseen within the abdomen of the living have even been in a position to point out their true pathology. This surgical investigator of living human pathology, it is hoped, will succeed in doing for us in this region what he has been able to do in the lower belly and pelvis. The patients suffering from pathology in the liver and the gall bladder, the right half of the stomach, and the first portion of the duodenum are legion. True, there are other very important originators of pathology in the upper belly, viz., the pancreas and the right kidney; but my subject precludes more than the naming of these organs, because the task that I have set as the subject for this paper is "The Practical Significance of Certain Common Symptoms in the Upper Abdomen."

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[4] Dermal. Centralb., No. 3, 1900.

Of these, the first in importance is pain. Pain in the abdomen seldom indicates by its expressed location the point from which it originates. This fact has led some one to remark that the sympathetic nerve has no sense; meaning thereby that the point of pain indicated by the patient may have no reference to the pathologic entity which originates it. Ask the patient to indicate the point of greatest suffering, and in the majority the hand will move in an aimless way over the whole abdominal region. This is true regardless of the grade of severity, except possibly where the peritoneal involvement is slight. When the pain is severe, general muscular rigidity over the abdomen is the rule. When the lesion is only great enough to give a moderate degree of distress, the muscular rigidity is frequently limited to the region above the lesion. This point also is seldom accurately located by the patient. In the average chronic case not having an acute exacerbation, lesions about the gall bladder are less sensitive than those of the stomach. Lesions involving the pyloric third of the stomach and gall bladder can not well be differentiated by external manipulative methods alone. Although pressure applied over the lower costal arch on the right side, as pointed out by Eliot,[1] has been found very helpful in about two-thirds of the cases in which the symptoms pointed to inflammation in the region under discussion.

Eliot has shown that costal resistance is likely to be just as marked as is that of the muscles lower down, when covering an inflammatory process. This is especially true in abscess of the gall bladder and cholecystitis. This diagnostic aid has been found useful in my examinations of this class of cases for many years, as it has undoubtedly to others, both physicians and surgeons; but it remained for Eliot to point out and extend its use. I have found it especially helpful in the pain of the upper abdomen, in which appendicitis was one of the problems in the diagnosis. Pressure over the right lower costal arch, which does not elicit pain, will almost certainly exclude acute gall bladder trouble. It is also interesting to note the difference in costal resistance on the two sides, when the right upper belly is involved in an inflammatory process.

Light finger percussion, which elicits pain, is another valuable method of localizing active inflammatory foci in patients who are not over obese. An ulcer in the stomach or duodenum can often be located in this way, and, when combined with the subjective symptoms present in the case, valuable information is obtained. It might be said, in passing, what has probably been said a great many times, or, if not said certainly has always been understood by diagnosticians, that a good diagnostician is self-made, and that a not small part of his skill is so subtle as to defy language to express it. The most that can be said is that diagnosis is the use in this day of the facts worked out by many observers, both clinical and laboratory, combined with the results obtained in the examination of many patients of one class. A combination of all these necessary and obtainable conditions will develop in the individual observer an educated instinct for diagnosis, which is invaluable.

Another source of pain is the distention caused by gas. Gas does not accumulate until the inflammatory condition, or its results, are great enough, as pointed out by Graham, to inhibit peristalsis. In this way can be explained one of the causes of the common symptom of distention in the upper belly, which makes the demand for the various antidyspeptic remedies. The more serious the localized inflammation the less peristalsis; the less peristalsis the greater the distention and pain which results from it. If this localized condition go far enough to perforate and the patient recover, it is at the expense of the adhesions which maintain the local lessened peristalsis; and an acute case is converted into a chronic one.

So far I have referred only to the pain which may result from lesions in the stomach or the duodenum. But the same general symptoms may develop also from inflammatory conditions in the gall bladder, with or without gallstones. It is interesting to note the frequency with which the introduction of food or drink into this corner of the abdomen gives rise to pain, or at least an expression of distress, when any one of the organs in this corner is the subject of disease. Nature tries to keep the parts at rest by refusing to retain in the stomach either food, drink or medicines, and we have been very slow to comprehend the purpose of Nature in this particular.

Another source of pain in the upper abdomen is the contact of the gastric juice with an ulcer in either the stomach or duodenum. This pain is an interesting and characteristic symptom. It is not many years ago that some of us were calling the cases which came complaining of distress in the stomach when it was empty, neuralgia. We learned from our patients that the greatest relief from the pain was obtained by keeping small quantities of food in the stomach. There is probably such a disease entity as gastralgia, which is functional in origin; but we all now believe that in the vast majority of cases it is a symptom, where inflammatory change is the definite and underlying cause. An ulcer of the stomach or the duodenum, in contact with the acid gastric juice, will undoubtedly account for many of the symptoms of pain in the region of the abdomen under discussion. To quote from Graham, who also discusses contact of food on the ulcer, as follows:

> Pain is due almost wholly to the irritant actions of the acids on the open ulcer, with the added element of spasm. The greater the quantity of liquid in the stomach and the higher the degree of acidity the more severe the pain. In other words, intensity of pain and degree of acidity run about parallel. The irritant action of the food as a cause of pain, by passage over the diseased area, can not enter into the question; because anything that diverts, dilutes, neutralizes or removes the acid liquid lessens or entirely relieves pain. Antacids, as a rule, quiet for a time and remove nothing; vomiting or irrigation of the stomach relieves by removing the offending acid; but no rough particles of food which could irritate are found.

Most of those who have written on this subject agree as to the frequency of the pain and formation of gas complained of by patients suffering from lesions in the stomach, duodenum and gall bladder. The next most frequent symptom mentioned is vomiting. Among my own cases, however, nausea is more frequently spoken of than vomiting. Its relation to the injection of food, like that of pain, varies. Pain precedes it in the majority of cases, and it is the suffering from this that undoubtdly brings it on. If the ulcer is in the stomach and is so located as to be brought early into contact with the acid gastric juice, then the nausea or vomiting will be spoken of as occurring within an hour or two of taking food; sometimes the patient will tell us that the pain comes on at once. This is frequently due to gall-bladder inflammation, and is especially common if there are adhesions about the gall bladder. If the ulcer is duodenal, then four or even six hours may go before the nausea may develop. If the nausea comes on early and is followed by vomiting, the rejected food will be but partially, if at all, digested.

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[1] Medical Record, Feb. 6, 1904.

An important determining factor here is the size of the stomach. If this is greatly dilated and, therefore, unable to pass its contents into the small intestine, the patient may suffer for hours; and then by vomiting or by the stomach tube be relieved of a foul, sour-smelling mass of undigested food containing quantities of mucus. Food coming from the stomach in such a state will exclude its ever having reached the small gut. This should be borne in mind; because, although the undigested mass may be removed four or even six hours after being taken into the stomach, it is evident that the latter organ is physically incapable of putting it into the duodenum. If it had, it would be a pultaceous mass showing digestion; so that the degree of digestion is a clue as to its ever having reached the small bowel.

Another interesting fact, that perhaps may not properly be spoken of as a symptom, is that these patients in the first months or years of their suffering from disease located in these organs, seldom complain of loss of weight. Note, please, that I say in the first months or years. In the beginning the majority of them are able to maintain their bodily weight and frequently even to gain; but finally either the impaired nutrition long continued, or the infections which result from the solution of continuity in organs and tissues so richly supplied with lymphatics tells on the bodily weight, and they begin to fail. Recently I had a patient (cholecystitis) who had lost thirty pounds in three months, and who was still losing when he entered the hospital for operation. When this time comes in the history of one of these chronic sufferers, he always brings with him the suspicion of the probable beginning of a cancerous process, with all that awful word stands for.

Bleeding from ulcer of the stomach or duodenum has not, in my experience, been a prominent symptom except in the cases that have had a long history and are far advanced. Frequently they will tell you that years before they had a sudden and severe hemorrhage, but none since; and that practically they had not seen a well day since it occurred. But this failure, on the part of the patient, to note the occurrence of hemorrhage does not necessarily imply that it has not been present. Where laboratory methods are made a part of the investigation of this class, it has been found that a large percentage have blood in the stools; if in considerable amount, blood passing in this way may give the stools a meconium-like look, which is spoken of in the text-books as tarry in character. Macroscopically, this same kind of stool can be produced by the infected bile which may be thrown into the bowel from a gall bladder, the subject of cholecystitis. In this latter class of cases the hematin crystals, which are present in the former character of stool containing blood, will not be found, because of the origin of the color-giving substance in the gall bladder. It is interesting to note that the pain and distress which may accompany these cases of cholecystitis will usually lead to a symptomatic diagnosis of ulcer of the duodenum or the stomach. But the internist or surgeon who has seen many cases of ulcer of the stomach and duodenum will not find it necessary, in the great majority, to examine the stools for hematin crystals. Indeed, a careful history well taken will, in the majority, determine the diagnosis so that there need be no question as to the treatment which should be instituted.

These cases usually have periods in which there is an acute or subacute exacerbation of the trouble. At these times there is usually a moderate degree of elevation of the temperature from 100° F. to 101½° F. It rarely rises above this. The temperature curve not infrequently causes one to think of a possible tubercular element in explanation of its persistence. It reaches its maximum in the early afternoon, and gradually disappears toward evening. It differs, however, in that the 6 a. m. temperature is rarely found subnormal, except in the later stages of the condition, when general systemic exhaustion is pronounced. When this time comes, a subnormal temperature is the rule during the entire twenty-four hours. In addition to the temperature, at this time there is a moderate increase in all of the symptoms which have characterized the previous condition of the patient. There is a little more mental and physical depression; a little more localized distress in the upper right quadrant of the abdomen, especially after taking food, and in consequence of which there is a more pronounced fear of calling on the functions of the stomach, and with it the gall bladder. The patient is willing to drop his usual occupation, and, like a sick animal, seeks a warm and quiet place until the toxemia, which undoubtedly is at the bottom of his symptoms, is thrown off by whatever immunizing resistance he may possess. This is what I am pleased to call the gastric crisis of ulcer or cholecystitis. If resistance is good, the patient may recover his usual degree of health and drift along for weeks, months or years, until another paroxysm of the same kind and due to the same causes renders him inactive for about the same period as the previous attack. These cases are rarely diagnosed correctly, "biliousness" and "dyspepsia" being the words most frequently used as descriptive of the diagnosis, and on which the treatment is based. But there comes a time in the life history of a large number where even a correct diagnosis is futile, as far as preserving the life of the patient is concerned, because of alteration in the functionating tissues of the liver and pancreas, due to persistent infection. I believe, too, that further investigation will show that the results of this infection are chemical through the intervention of bacteria at work in ulcerating areas in the stomach, duodenum or gall bladder.

I have purposely avoided the consideration of other symptoms which will be called to mind as almost invariably present in the condition here discussed. Among these are pain radiating in the region of the right scapula or half way around the waist line on the right side; jaundice; the belching of sour gas; "cramp colic," which is a name descriptive of a condition frequently badly treated by the use of large doses of morphin. These patients are usually obstinately constipated. They often complain bitterly of a bad taste in the mouth and are aware of a foul breath. The abdomen is, as a rule, distended with gas, showing the lessened peristalsis. They are often more hungry than otherwise; but food gives them neither comfort, satisfaction nor nutrition.

To generalize further: The individuals who may suffer or are suffering from symptoms referable to the upper abdomen range in age from the young adult to those advanced in years. As to previous symptoms, almost anything may be true, and nothing may be true. In the majority, however, two words are used which are descriptive only in a symptomatic way, and from this standpoint have had a long and useful career. I refer to "dyspepsia" and "biliousness," two words which we Americans have probably used as often as any two words in the language. Every patient suffering from a train of persistent symptoms heretofore known as dyspepsia has or has had either a gastric or duodenal ulcer, and is suffering from its sequel. Every patient suffering from recurrent attacks of so-called biliousness has either gallstones or a chronically inflamed gall bladder, which is another name for a chronically infected gall bladder. Unfortunately the class of patients which in one may seem to refer his symptoms to the stomach, in another practically the same symptoms will point to the gall bladder as the organ at fault. Fortunately, in the majority of cases, only one primary affection is present. Unfortunately it is not yet certainly known that the removal of the probable primary affection will permit of recovery from all its consequences. Frequently we find an infected gall bladder (cholecystitis) and with it the stomach is dilated. The primary condition under these circumstances will be difficult to determine, even when the abdomen is open. Such difficulties in diagnosis do not militate against the clinician, as these conditions are purely surgical, and the differentiation in many cases, as well as the proper treatment, must be made on the operating table.

Localized peritonitis and recent adhesions when the abdomen is open, will serve as infallible guides in the chronic cases with acute exacerbation; while enlarged lymphatics without adhesions will point the way in the more acute cases. Enlargement of lymphatic glands on the exterior of the body, as a result of infection of nearby tissue, has been noted for an indefinite period. Surgeons, however, were slow in recognizing the lymphatic enlargement found within the abdomen during exploratory operations as due to the same causes, viz., infections. Since the work of Poirier and those associated with him much has been done to advance our knowledge of the special anatomy of the lymphatics. Since their work appeared it has been a much simpler matter to determine the probable location of a lesion, the seat of persistent infection within the opened abdomen. The intra-abdominal lymphatics as carriers of infection open up an immense field for practical investigation as to the possibility of various recognized lesions, especially in the pancreas. Grossly we know what they can do in infections of the appendix, and as disseminators of cancer their work is all prevailing.

The writer has been interested for some years in the question of chronic infections of the liver from persistent gall bladder inflammations, with or without stones; and infections of this same organ as a result of ulcer of the stomach or duodenum. He early learned, in his gall bladder work especially, that a certain small percentage of his cases would die by slow degrees regardless of the favorableness of the primary results following operation; and that a certain other class of nonoperative cases will die, with exactly the same symptoms, and when brought to the postmortem table the pathologic findings are the same in both classes of cases. The following cases will, I think, illustrate this fact very well.

May 19, 1899, I operated on Miss C., aged 26, and removed a large number of varying sized so-called mulberry calculi. Previous to her operation she had suffered from the clinical symptoms of gallstones, together with a chronic cholecystitis. The liver was not enlarged, although notes of the case made at the time distinctly state that the whole liver region was tender to both percussion and pressure made over the costal cartilages. The case was drained and made a good operative recovery, as far as the time spent in the hospital was concerned and afterward while drainage persisted. But she never fully regained her health and finally died, twenty-two months after the operation, with every symptom of internal hemorhage. Before this developed, however, she had the ordinary symptoms of a mild but persistent cholecystitis.

An autopsy was made by Drs. Jesse Rowe and J. C. Creel, both of Abingdon, Ill. They reported to me the findings as follows: About one quart of fresh clotted blood in the upper abdomen, the source of which was uncertain. A small cauliflower-like growth surrounded the common duct, which was patulous. Several soft stones were found in the gall bladder, which was fastened to the anterior abdominal wall. The inner surface of the gall bladder was inflamed and roughened, and when stretched over the finger looked like the surface of a nutmeg. The bile was thin and tarry in appearance. The liver was not enlarged, but yellow, with a gross appearance of fatty degeneration. Unfortunately, no specimens were preserved from either the liver or the growth about the common duct. At the time of the operation there was no appreciable growth about the common duct, and only the usual enlargement of the lymphatics, where sepsis is found in the gall bladder, was present.

My next fatal case came June 20, 1901, Mr. T., aged 77. He also had a history of chronic cholecystitis, with the ill health which it engenders extending over a period of years. On opening the abdomen, a greatly enlarged gall bladder was found capable of holding nearly a quart of fluid, together with a single stone weighing forty grains, which was loose in the cystic duct. The fluid which filled the gall bladder was thin, black, [illegible] ile, which characterizes this class of case [illegible] was enlarged and tender to both manipulation and percussion. Not to burden this article with details of the postoperative history, I will merely say that this patient died in twenty-three days following operation, with a continuation of the symptoms of the same kind of infection which existed previous to his going onto the operating table. At autopsy this liver was found enlarged, and sections prepared for the microscope showed extensive fatty degeneration.

My next case of this class was Mrs. C., aged 61, operated on Oct. 2, 1901. This patient gave a history of severe gallstone attacks extending over a period of twenty-five or thirty years. She had the classical symptoms of stone in the common duct. At the operation I removed a stone from the common bile duct, the size of a pigeon's egg. Its upper or gall-bladder end was faceted in two places, showing the pressure of two additional stones; these were also removed. These two were equal in size to the first. This woman lived fifty days, dying, as the other two patients, in exactly the same way. On autopsy, this liver was found to have undergone the same fatty changes that characterized the liver in the case of Mr. T.

A few weeks ago I saw the following case: Mr. B., aged 54, but looking much older, had marked atheroma of the radial and temporal arteries, but has always been temperate as to the use of alcohol and tobacco. He has no specific history. He has suffered from chronic irritation of the stomach for twenty years and gives every symptom of chronic ulcer of the stomach, possibly now malignant. He asks relief because of what he calls his "chronic stomach trouble." Physical examination discloses a stomach with its lower border on a line with the umbilicus. Appendix tender; kidneys negative. The liver in this patient is very small, evidently markedly cirrhotic. Pressure over the costal arch elicits no pain on either side.

This case has not yet been brought to operation; but when he is, what will we find? I believe that it will be both a chronic ulcer of the stomach and a chronic cholecystitis. Further, I believe that the cirrhosis of his liver is the result of long-continued infection from his ulcer in the stomach, or the chronic inflammation of the gall bladder, or both. I believe also that Miss C., above mentioned, would have had the same kind of a cirrhotic liver as is now present in Mr. B. could she have lived long enough, i. e., had a smaller dose of a less virulent infection than she evidently did have, and had not the probable malignant condition found on autopsy intervened. As long as we have ulcer in the stomach or duodenum or an infected gall bladder to furnish a long-continued infection through the lymphatics to the liver and pancreas, we are sure to have occasionally a case which will die following operative procedures in the upper abdomen, regardless of the skill with which such operative procedures are conceived or by whom carried out.

This phase of the question of chronic symptoms in the upper abdomen as indicative of the pathology that may develop there is, I believe, most important, and so far as I know has not been thoroughly worked out, except possibly by Quincke, quoted by Eisendrath,[2] as follows:

> The clinical picture of the cholecystitis usually predominates, so that the cholangitis, with its grave influences on the liver parenchyma, is marked. The course of a cholangitis seems to be most acute with virulent colon bacilli; more chronic with staphylococci and streptococci.

These writers (Eisendrath, and Quincke, whom he quotes) make no mention of the possibility that these infections may be the cause of cirrhosis of the liver in an individual otherwise free from the usual history that precedes the average case of this disease, viz., chronic alcoholism. Eisendrath's paper,[2] is a valuable contribution to the literature of infections of the liver following acute cholecystitis.

Closely related to the above is the great question of cancer of the stomach. If overlooked, infections can produce such dire results; and, as we are slowly coming to realize that they can, what shall we say of this most terrorizing and hopeless condition of them all? You and I know that at the present day, when the diagnosis is made, the treatment in the great majority is by abandonment of the patient to his fate. We have, as yet, no means of making an early diagnosis, either in cholecystitis, cholangitis or in cancer of the stomach. But we have, as I believe I have pointed out above, symptoms which can be very nearly interpreted aright when it comes to these other conditions which are so common in the upper abdomen, certainly interpreted near enough to know that the only hope of permanent cure is by the aid of surgery. When this time comes, as it surely is coming, cancer will be diagnosed in its earliest stages when the surgical treatment will take into consideration the distribution of the regional lymphatics, which in this situation, as pointed out by Cuneo, are the most favorably situated of any in the body for permitting a radical cure. Thus in curing conditions in the upper belly, which give rise to many distressing and common symptoms, we attain a greater end in the promise of a more permanent relief for our cases of chronic infections of the liver and of gastric cancer. In the realization of this, the internist and the surgeon must join together. If they do not, the records of both in diseases of the liver, stomach, duodenum, gall bladder and pancreas will continue to be a page of regrettable failures.

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[2] The Journal A. M. A., Nov. 30, 1901.

FOREIGN BODY IN THE BRONCHUS.

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BOSTON.

Since 1897, when Killian of Freiburg reported his method of examining the bronchi by means of long tubes inserted through the mouth or through a tracheotomy wound, it has been extensively used. This procedure is largely confined to the location and removal of foreign bodies, but it has frequently been of value in localizing compression of the trachea from goiter and mediastinal tumors.

Up to August, 1904, there had been thirty-two successful removals of foreign bodies reported and there have been many more since that time. Under expectant treatment, these cases present a mortality variously given at from 56 to 80 per cent. Treated by tracheotomy, this rate is lowered to about 30 per cent. since a much better opportunity is furnished for spontaneous expulsion. These figures are more or less fallacious, as many of the fatal cases are probably not reported and some others considered cured probably die later of lung abscess or empyema. Some operators have "fished" blindly through a tracheotomy opening with hooks, wire loops, forceps, etc., with occasional success. Frequently this success has been due to the mechanical irritation of the tracheal mucous membrane, thus giving rise to excessive coughing and expulsion of the foreign body.

Trans-thoracic bronchotomy, either anterior or posterior, must of necessity be accompanied by a large mortality, given by some authors at 100 per cent., but it is probably somewhat under that. The operation, fortunately, has been but little used.[1]

With Killian's method, only an occasional case will be lost and this will happen when delay has given rise to changes of one kind or another in the lungs. Bronchopneumonia, atelectasis, lung abscess and empyema are among the causes of death in neglected cases.

In adults, it is considered best to introduce the bronchoscope through the mouth (superior bronchoscopy), while in infants and young children, and in difficult cases, the instrument is inserted through a tracheotomy wound (inferior bronchoscopy). Superior bronchoscopy should be avoided in young children as it has frequently been followed by edema of the larynx, which required tracheotomy.[2]

The superior operation requires skill and practice, while the inferior is easy and can be carried out by anyone who has ever used a cystoscope or endoscope. For illumination Killian uses an electric headlight or a head mirror. Instrumentation under these conditions is difficult, while on the other hand a small electric lamp at the lower end of the tube leaves a clear working field. This idea was first carried out by Dr.

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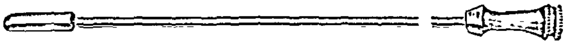
[1] Curtis: Ann. of Surg., 1898. Milton: Lancet, January, 1901.

[2] Nehrkorn: Deutsche med. Wochft., 1904, No. 40. Heidenreich: Ibid, No. 47.

E. Fletcher Ingals of Chicago. He used a small cold lamp on a light carrier in a Killian bronchoscope. This idea came to me before I knew Dr. Ingals had used it and I had several bronchoscopes made, the feature of which is an electric lamp placed at the lower end of the tube. In this instrument, the lamp is not in the lumen of the tube, but in a groove below it and out of the field. This is an advantage over Dr. Ingals' method, as it gives more room.

The value of this instrument can be illustrated by the case report which follows, in which I used an electric endoscope, as I had at that time no bronchoscope at hand. Critics of this method of treatment say that it requires unusual skill to carry it out, but I must maintain that it does not. Anyone who has used either a cystoscope or an endoscope will have little difficulty with inferior bronchoscopy. Superior bronchoscopy, on the other hand, is difficult and requires special skill. Another thing worth speaking of is the forceps designed by Dr. A. Coolidge[3] of Boston, which is much better than that of Killian, a fact easy to appreciate if one has used both instruments.



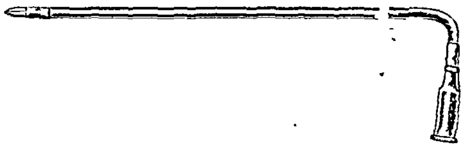


Fig. 1.—Obturator. Fig. 2.—Light carrier, with electric lamp.

History.—Sept. 16, 1904, C. D., aged 21 months, inhaled a peanut kernel, which caused paroxysms of dyspnea and coughing. On September 20 respiration became so bad that a tracheotomy was done, but it gave no relief. On September 25 I first saw the case, with Dr. F. P. Emerson, at the Boothby Hospital. At this time the child was breathing well, but still had attacks of expiratory dyspnea in which he became almost plum colored and seemed to be suffering extremely. On the following day he was much worse, evidently failing in strength and refusing nourishment; respiration, 40; temperature, 102; pulse, 140; breathing, labored; dyspnea largely expiratory. Throughout both lungs numerous moist râles were heard. No areas of consolidation were made out. Left side of chest apparently expanded less than right and respiratory murmur was louder on the left.

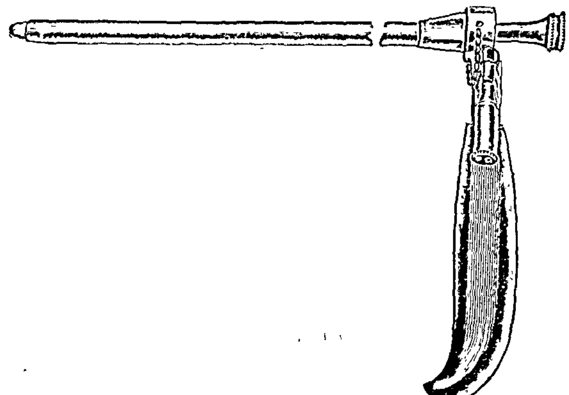


Fig. 3.—Instrument complete.

Operation and Result.—Without anesthesia, a No. 25 F. endoscope 15 cm. in length was introduced through the tracheotomy wound. Mucus was sponged from the tube and a clear field obtained by the electric light at the lower end of the tube. The half kernel of the peanut could be seen in the right primary bronchus and was easily removed with a pair of alligator forceps. The tracheal canula was put in place for forty-eight hours and then omitted at intervals, and left out altogether after a few days. The child passed through a severe bronchopneumonia, but had no expiratory dyspnea after the foreign body was removed. The tracheotomy wound healed in a few weeks and the child is now perfectly well.

4 Arlington St.

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[3] Boston Med. and Surg. Jour., May, 1905.

Special Article

IMMUNITY.

CHAPTER XVIII (CONCLUDED).

PRINCIPLES OF SERUM THERAPY.

Bactericidal Serums.

Attention has been directed repeatedly to a large group of organisms the toxic constituents of which are integrally associated with the protoplasm of the microbes; the toxic substances are endotoxins. Certain members of this group, of which the typhoid, paratyphoid, colon and dysentery bacilli and the vibrio of cholera are representatives, cause the development of strong bactericidal serums in the immunized animal. In Chapter XIII it was shown that such serums have no power of neutralizing the endotoxins of the corresponding organisms, hence whatever prophylactic and curative properties they may have would seem to depend on the bactericidal action of the amboceptor-complement complex. As to whether the substances which stimulate phagocytosis, i. e., the opsonic or bacteriotropic substances are of importance in the intra vitam action of bactericidal serums remains to be definitely established.

Curative and Prophylactic Power.

It is common knowledge that bactericidal serums have not been successful curative agents, although in test-glass experiments they may be able to kill large numbers of organisms. Experimental work has brought to light a number of conditions which render their ineffectiveness somewhat intelligible, but has been of little service in increasing their value, and at the moment their outlook as curative agents is not very encouraging.

Animal experiments indicate that when used prophylactically they are much more powerful. Unfortunately, however, as in the case of antitoxins, the immunity which is conferred is of short duration, the serum being excreted or the antibodies destroyed within two or three weeks. For this reason they are not suited for general prophylactic use in man. They may be distinctly useful when combined with vaccination, as indicated later.

Time of Injection.

Bactericidal serums are efficient in saving experiment animals, provided the serum is injected in advance of, simultaneously with or very shortly after the bacteria are introduced. By injecting the vibrio of cholera and anticholera serum simultaneously one may readily save a guinea-pig from ten times the fatal dose, or more. If the culture be injected first and the serum later a larger amount of serum is required to save the animal. After a few hours a sufficient amount of serum to kill all the vibrios may be injected, yet the animal will die from the action of the endotoxins which have been liberated. The organisms had proliferated to such an extent that the mass, though dead, contained a fatal amount of endotoxin. A statement made previously may be repeated, that the adminstration of a bactericidal serum rather than being beneficial may actually be injurious, in that the microorganisms are dissolved rapidly and an excessive amount of endotoxin thereby liberated; this, perhaps, is not definitely established as a point of practical importance.

Having determined the amount of a bactericidal serum which is able to save a guinea-pig from an incipient infection, one may calculate on the basis of weight the amount which would be required to save a man under the same conditions; usually it runs up to impossible amounts, hundreds of cubic centimeters. The conditions are all the less promising when we remember that physicians are usually called on to treat well established infections; they are beyond the incipient stage as one would speak of the incipient stage of an experimental infection.

Peculiarities of Complement and Amboceptors.

Other conditions which operate against the effectiveness of bactericidal serums as curative agents have to do with peculiarities of complements and amboceptors. The lability of complement involves certain difficulties. A bactericidal serum, as one would purchase it, contains none. This difficulty may be obviated in three ways: First, one may use serums which are fresh from the immunized animal; second, one may complement the solution of amboceptors (old immune serum) by the addition of fresh serum from an immunized animal which is known to contain suitable complement; or, third, one may inject the complement-free serum and place reliance on the complement which exists in the plasma and lymph of the patient for activation of the amboceptors. *It is sufficiently established that none* of these procedures enhances the curative value of the serums to a satisfactory extent.

Absorption of Complement by the Tissues.

Regardless of the amount of foreign complement which is introduced, it appears to be diverted from its function. It has been shown experimentally that the tissues often absorb a foreign complement, and the mere fact that anticomplements are formed so readily also indicates that this may be the fate of complement. In accordance with a rather general principle, if the animal which furnishes the serum is rather remote from man zoologically there is all the more likelihood of the complement being fixed by the tissues.

Choice of Animals for Immunization.

It has been suggested that if one should choose for immunization animals which are closely related to man, as chimpanzees and monkeys, a double advantage would be gained: First, the foreign complement may be identical or similar to that in man and consequently would be less likely to be absorbed by the tissues; and second, the complementophilous haptophores of the amboceptors may be so constructed that human complement would serve for activation. Theoretically, the conditions would be ideal if immune human serum were available for therapeutic purposes.

If one depends on the complement in the patient's body for activation of the amboceptors, there are two possible difficulties of importance: First, the native complement of the body is often decreased during infections and in some chronic diseases and may be too little for thorough activation; second, the amboceptors of the immune serum may demand for their activation a complement or complements which the body does not contain.

Deviation of Complement

Deviation of complement has been referred to as a phenomenon seen in test-tube experiments. In this condition an excess of amboceptors in some way decreases the power of the serum. It is supposed that a certain amount of the complement is absorbed by amboceptors which are unable to unite with the bacteria, and the effect is like that of too little complement. In the desire to administer a sufficient amount of antibodies, so much may be introduced that deviation of the complement occurs in the body. Results obtanied by Löffler and Able and by Pfieffer, in which excessive doses of immune serum were less protective than moderate doses, suggest the occurrence of this phenomenon in the body.

Inaccessibility of Microbes.

In certain diseases the microbes are so situated that a serum as ordinarily administered may not be able to reach them. Pfeiffer thinks that there is little hope for the serum treatment of cholera because of the exclusive location of the living organisms in the intestinal tract. In typhoid also the intestines are a reservoir of typhoid bacilli, although the living organisms reach the circulation in abundance.

By way of summary the following conditions would appear to account for the low curative value of bactericidal serums: 1. Bactericidal serums are not antitoxic. 2. They may liberate an excessive amount of endotoxin by dissolving the bacteria. 3. The lability of complement. 4. The power of the tissues to absorb the complements of a foreign serum. 5. The lack of a sufficient amount of suitable complement in the human body. 6. The difficulty of obtaining amboceptors for which human complements are suited. 7. The possibility of deviation of complement by an excess of amboceptors. 8. Inaccessibility of the micro-organisms in certain infections (cholera, typhoid).

Other "Antibacterial" Serums.

As pointed out elsewhere, another group of organisms the members of which contain endotoxins are able to cause the formation neither of antitoxins nor of bactericidal serums: streptococcus, staphylococcus, pneumococcus, etc. Many investigators, nevertheless, are positive in their claims that the antisera for these organisms have a protective and even a curative value. The properties on which their value depends have not been satisfactorily ascertained. Although certain antistreptococcus serums are said to be antitoxic, it is contended by others that they act by simulating phagocytosis. Work now in progress may show that immunization with these organisms causes an increase in the opsonins. Their curative value is very low in experimental work and they fail totally if injected a few hours subsequent to the introduction of the organisms. Clinically, we are familiar with them as failures.

It is particularly in relation to the streptococcus that the so-called polyvalent serums have been prepared. Cultures of streptococcus obtained from numerous sources are used in the immunization with the expectation that the serum will be effective against various strains of streptococci. The principle may be an important one in the preparation of other antibacterial and bacterial serums.

Vaccination or Protective Inoculation.

Vaccination, or protective inoculation, being a process of active immunization, establishes an immunity of long duration, for in this instance the cells of the body continue to form antibodies over a long period. This is in contrast to the immunity of passive immunization.

In some instances the nature of the virus used is unknown, as in smallpox and hydrophobia; in all probability, however, it consists of micro-organisms rather than of toxins alone. In the case of typhoid, cholera, plague, and other diseases of known etiology pure cultures, living or killed, are inoculated. Protection does not follow immediately on the inoculation. We are sufficiently familiar with this fact in relation to smallpox, in which several days are required for the formation of a protective amount of the antibodies. There is reason to believe that the interval between the inoculation and the appearance of antibodies is characterized by a decreased resistance on the part of the individual, so that during this brief period he is unusually susceptible to infection. It is not yet clear that this condition is one of serious practical importance. In case the incubation period of the vaccination is shorter than that of the disease (smallpox, hydrophobia) vaccination usually is successful even if practiced within a limited time after exposure to infection.

Nature of Antibodies.

In certain instances the nature of the antibodies is known. In typhoid, cholera, plague and dysentery, for example, they consist of bactericidal amboceptors; agglutinins and precipitins are formed incidentally. The amboceptors naturally depend on the complement of the body for their activation. If the disease is one of unknown etiology the nature of the antibodies is not easily determined. We should keep in mind the possibility that vaccination may cause an increase of the opsonins and that the potential phagocytosis may thereby become greater.

Theoretically it would be possible to immunize man against diphtheria and tetanus by inoculating with small amounts of the corresponding toxins. Such a procedure for obvious reasons would be unnecessary and unjustifiable.

Mixed Active and Passive Immunization.

It is not unlikely that mixed active and passive immunization will be of great service in some infections. A successful campaign against rinderpest has been carried on in the Philippines by this method. The blood of infected cattle contains the virus, which as yet has not been cultivated artificially. The serum of cattle which have recovered from the disease, or which have been immunized cautiously with infected blood, contains the specific antibodies. Both the immune serum and virulent blood are used for the inoculations. The same principle has been found effective in experimental work with cholera, typhoid and plague. Immediate immunity is established by the serum, which would eliminate the danger period mentioned above, and before the serum disappears entirely active immunity develops.

APPENDIX.

"EXAMINATION OF SERUMS MADE BY LICENSED MANUFACTURERS.[1]

"The act of Congress approved July 1, 1902, entitled "An act to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate commerce in said articles, and for other purposes," and the regulations framed thereunder, approved Feb. 21, 1903, imposed upon the director of the Hygienic Laboratory the duty of examining vaccines and antitoxins for purity and potency.

"Accordingly purchases are made for the Hygienic Laboratory from time to time on the open market by officers of the Public Health and Marine-Hospital Service stationed in various parts of the country. The antitoxin is always bought from reliable druggists, who keep the product under proper conditions of light, temperature, etc. Several grades of diphtheria antitoxin made by each licensed manufacturer are bought and sent to the Hygienic Laboratory by mail for the purposes of these tests.

"The serums are tested not only for potency, but also to determine their freedom from contamination by foreign bacteria, and finally to insure the absence of chemical poisons, especially tetanus toxin. Note is made of the physical appearance of the serum, and tests are made to determine whether an excessive amount of preservative has been added.

"A careful memorandum is made of the facts given by the manufacturer, as stated on the label, as to the number of units contained in the package, and the date beyond which the contents can not be expected beyond a reasonable doubt to yield a specific result. Note is also made of the manufacturer's compliance with the law requiring that the product be plainly marked with the name of the article, and the name, address, and license number of the manufacturer.

"Delinquencies that occasionally come to light in these examinations are at once reported to the Surgeon General, U. S. Public Health and Marine-Hospital Service, who takes the necessary steps requiring the immediate withdrawal of the particular lot of serum from the market and institutes measures to prevent a repetition of similar errors."

"SERUM ANTIDIPHTHERICUM IN THE PHARMACOPEIA.

"The next edition of the United States Pharmacopeia, being the eighth decennial revision, 1900, which is to appear shortly, will contain an antitoxic serum for the first time. The serum will be known officially as antidiphtheric serum or *Serum antidiphthericum* and the unit will be recognized as that approved or established by the United States Public Health and Marine-Hospital Service.

"The official text, which has been kindly furnished by Professor Remington in advance, will be as follows:

"SERUM ANTIDIPHTHERICUM.

ANTIDIPHTHERIC SERUM. DIPHTHERIA ANTITOXIN.

"A fluid separated from the coagulated blood of a horse *Equus caballus*, Linné, immunized through the inoculation of a diphtheric toxin. It should be kept in sealed glass containers, in a dark place, at temperatures between 4.5° and 15° C. (40° and 59° F.).

"A yellowish or yellowish-brown, transparent or slightly turbid liquid, odorless or having a slight odor, due to the presence of the antiseptic used as a preservative.

"Specific gravity: 1,025 to 1,040 at 25° C. (77° F.).

"Antidiphtheric serum gradually loses its power, the loss in one year varying between 10 per cent. and 30 per cent. Each container should be furnished with a label or statement, giving the strength of the antidiphtheric serum, expressed in antitoxic units, the name and percentage by volume of the antiseptic used for the preservation of the liquid (if such be used), the date when the antidiphtheric serum was last tested, and the date beyond which it will not have the strength indicated on the label or statement.

"The standard of strength, expressed in units of antitoxic power, should be that approved or established by the United States Public Health and Marine-Hospital Service.

"Average dose: 3,000 units.

"Immunizing dose for well persons: 500 units."

Clinical Reports

PRIMARY TUBERCULOUS MENINGITIS.

WITH REPORT OF A CASE.

HENRY W. CHENEY, M.D.

CHICAGO.

The case which I here report illustrates the extreme difficulty of making a diagnosis in the early stages of tuberculous meningitis. As stated editorially in a recent issue of The Journal, it is perfectly possible to have a primary tuberculous meningitis, synovitis, or osteomyelitis, with no other tuberculous lesion existing in any other part of the body, and it is in support of this statement that I report the following case. This child was sick two weeks before the symptoms were clear enough to make a positive diagnosis.

Patient.—Alexander A., aged 3½ years, had never been sick previously and was the picture of health. One paternal grandmother and one paternal uncle had died of tuberculosis. His parents were both living and healthy and being intelligent people had taken particular care in regard to his diet, exercise in the open air, etc., so that he was apparently as normal and healthy as a child could be.

Present Illness.—I was summoned first on Feb. 3, 1904, when the parents complained of the child vomiting. One week previously he had indulged in some popcorn which caused a temporary gastroenteritis which cleared up in a day or two.

Examination.—When I saw him he was vomiting two or three times in twenty-four hours, mostly after taking food. Temperature and pulse were normal and further examination was negative, so I suggested a modification of his diet by giving him the more easily digested foods and drink and prescribed a laxative first, and then an intestinal antiseptic mixture.

Course of the Disease.—On the third day, there was little or no improvement, but the treatment was continued.

On the fourth day, vomiting was more pronounced and occurred each time after feeding. The mother also noticed a slight lassitude or disinclination to move about, manifesting itself more by his wanting to be held or by sitting by himself quietly or lying down more than usual. His reflexes and pupils were normal and as yet no other symptoms had appeared.

On the fifth day, ordinary food was withdrawn and he was fed a predigested beef preparation and the intestinal antiseptic and corrective continued. His temperature ranged from normal to 99 degrees and his pulse was about 80 with no irregularity.

By the seventh day, the vomiting was persistent. At times it occurred spontaneously and it did not always follow the taking of food. All nourishment by mouth was now stopped and feeding by the rectum begun. Regular enemas of peptonized milk were given and most of these were retained. Temperature now reached 99.5 at times, pulse still not affected. Pupils were normal and reflexes negative. Inactivity was slightly more pronounced and there was a greater inclination to sleep.

Dr. Frank Walls saw the patient with me on the seventh day and after a careful examination we were unable to make a positive diagnosis. The possibility of a meningitis was discussed but the symptoms were not definite enough at this time to confirm its presence. Dr. Walls advised an expectant and symptomatic line of treatment.

During the second week, the conditions continued the same, with the persistent vomiting and the inactivity of the child as the prominent features. There was no change in the reflexes or pupils. No headaches nor tenderness of the head or neck. The abdomen was not noticeably flat; pulse was regular; temperature was below 100. Examination of heart and lungs was negative. There were no twitchings of the muscles or convulsive movements. Toward the end of the second week, however, the drowsiness and lassitude had become marked.

On the thirteenth day, the case being still puzzling and doubtful, a well known neurologist of this city was called in consultation and, after examining thoroughly, stated that in his opinion there was no meningitis present. The vomiting he explained on the theory that it was cyclic in character and the weakness and lassitude of the child as being due to a lack of proper nourishment.

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[1] The material for this appendix is taken verbatim from Rosenau, "The Immunity Un [illegible] Diphtheria Antitoxin," Bulletin No. 21 of th [illegible] of the Public Health and Marine-Hospital [illegible] States. M. J. Rosenau is Director of the Hygienic Laboratory.

On the fourteenth day, drowsiness had increased almost to coma. Pulse and heart action were slightly irregular; pupils at times were unequal. Occasionally there was a slight contraction of the cheek muscles hardly to be distinguished from a smile. The knee jerk was slightly increased.

By this time I was fairly well satisfied that the case was tuberculous meningitis and, on the fifteenth day, well-marked twitching of the face and hands was present and the first general convulsion occurred, so that the diagnosis was now quite clear. Dr. F. S. Churchill examined the case with me on that day and several times afterward and his notes have been of assistance in the subsequent history. Our examination at that time showed the child comatose—neck slightly rigid and tender; throat, lungs and abdomen negative; pupils irregular and unequal. Occasional nystagmus and slight strabismus were present. Heart action and pulse were irregular, varying from 72 to 82; temperature 99.5; respiration 12—somewhat irregular and yawning. The patellar reflex was increased; Kernig and Babinski sign absent. A blood count showed: Hemoglobin 50 per cent.; red cells 5,760,000, white cells 8,000.

From that time on, the history was typical; there was increasing weakness and coma and high temperature, and death occurred on the twenty-fourth day. A lumbar puncture was made four times altogether, on the sixteenth, eighteenth, twenty-first and twenty-fourth days and from one-half ounce to two ounces of fluid withdrawn each time. There seemed to be a slight temporary improvement after the first and third punctures and no change after the others. The first specimen of fluid was clear, the others increasingly cloudy. The first was sedimented and the precipitate was small in amount; no tubercle bacilli or other bacteria were found in this specimen. A few cells were present which were largely lymphocytes—thus agreeing with some recent French writers who claim that the cells present in the spinal fluid from this disease are largely lymphocytes as distinguished from other forms of meningitis in which polynuclear leucocytes predominate. A guinea-pig was inoculated with some of the first fluid and died in seven weeks from tuberculosis of the abdominal glands, liver and spleen. Tubercle bacilli were found, however, in the sediment of the fluid obtained from the third puncture.

Autopsy.—A careful autopsy was performed the day after death by Dr. H. G. Wells of the University of Chicago. On opening the abdomen, there were no peritoneal adhesions. The retroperitoneal glands were normal; the mesenteric glands were slightly enlarged, no caseation. Liver, spleen, kidneys and pancreas were all normal. In the gastrointestinal tract, there was no evidence of ulcers in the ileum. Heart and lungs were normal and there were no adhesions nor areas of consolidation on either side. The superficial lymph glands were not enlarged.

Brain and Meninges: There was an unusually large quantity of fluid at the base of the brain. From the optic commissures posteriorly along the medulla, there was a gelatinous yellowish-white material. This was very dense about the infundibulum, forming a solid mass 5 m.m. on each side. There was a dense mass around each anterior cerebral artery which seemed to invade the brain tissue. There was a slight granular exudate over the base of the frontal and temporosphenoidal lobes and cerebellum, but none over the upper portion of the brain. The fissures at the base and also the fissures of Sylvius were adherent. Along the arteries, the membranes were beaded and studded with minute white spots. A similar exudate was found between the cerebrum and the cerebellum and about all the fissures at the base. Both lateral ventricles contained a slightly turbid fluid. The membrane of the ventricles was finely granular but not thickened. The choroid plexus appeared normal. The bones at the base of the skull were perfectly normal. The fontanelles were closed and the rest of the skull was normal.

Histologically, the meninges showed all the changes of a typical tuberculous meningitis. The perivascular tuberculosis was very extensive and consisted chiefly of caseous areas. Tubercle bacilli were found in stained sections. All other organs seemed perfectly normal except for some congestion and edema in the posterior parts of the lungs. The mesenteric and peribronchial glands were normal.

In view, therefore, of the fact that the child had no symptoms of tuberculosis elsewhere in the body and that the other organs failed to show tuberculosis either macroscopically or microscopically, I believe we are justified in designating this a case of primary tuberculous meningitis.

369 East Sixty-third street.

GUN-SHOT WOUND OF THE STOMACH.*

R. L. MURDY, M.D.
ABERDEEN, S. D.

Although gun-shot wounds of the stomach are among the most serious which a physician or surgeon is called on to treat, modern surgery has done a great deal to place the treatment of these injuries of the stomach and of other abdominal viscera on a more scientific basis and to give more hope for recovery in a large class of these cases.

The tendency to pneumonia after the treatment of these injuries has been suggested by W. J. Mayo and is markedly demonstrated in this case.

History of Shooting.—On Feb. 3, 1905, at 5:30 p. m., a family fracas occurred in which the senior member of a family was used for a target by his stepdaughter, who used a 22-caliber revolver, shooting twice from in front. One shot took effect over the costal cartilages of the ribs about two inches to the left of the median line, taking a course downward, backward and to the right, and passing through all the structures of the abdomen. After striking the cartilage the bullet was deflected a little downward, thence through the stomach and into the muscles of the loin. The shooting occurred immediately after supper and the injured man had a full stomach at the time.

Examination.—When I arrived on the scene the patient was standing in the middle of the floor, bent forward, with his hands over his stomach and complaining of severe pain through the stomach and abdomen. He was nauseated and vomited quite freely, throwing up stomach contents and blood. His face was pinched looking and he had an extreme pallor. A slight examination was made of the wound and its course through the abdomen, and a diagnosis of perforation of the stomach was made, from the characteristic pain, the direction of the bullet and the vomiting of blood, the pallor and the pinched condition of the patient.

Treatment.—The patient was immediately sent to the hospital and after a hasty preparatory treatment he was anesthetized and a laparotomy was performed, the median incision being used.

The incision extended from an inch below the ensiform cartilage to the umbilicus. As soon as the peritoneum was opened, a free flow of blood and stomach contents were encountered. These were mopped out hastily and the injuries to the viscera sought for. An examination revealed a puncture of the anterior wall of the stomach midway between the cardiac and pyloric ends of the stomach and about the same distance between the greater and lesser curvatures.

As the bullet passed through the anterior wall of the stomach, it had severed one of the large arteries, and this had caused copious internal hemorrhage.

The wound in the anterior wall of the stomach was small, but very ragged. It was immediately closed by a double row of sutures, then the stomach was further raised up and retracted to one side and examined for other injuries.

The examination revealed a lacerated and punctured wound of the posterior wall large enough to admit of the tip of the index finger, which was discharging stomach contents freely. This wound was treated in the same manner as the anterior wound, after which the other viscera were inspected. No further injury being manifest, the abdomen was subjected to a thorough cleansing with sterile gauze wrung out of sterile salt solution and a free washing with hot sterile salt solution. Lamp-wick drainage was introduced under the bile ducts and under the posterior surface of the stomach and the wound was closed by through and through sutures and the usual sterile dressing applied.

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* Read at a meeting of the Aberdeen District Medical Society, 1905.

The operation lasted about one hour and fifteen minutes, being prolonged by such operative difficulties as tympany of the intestines and poor light.

In the search for injury to other viscera we were unable to trace the bullet after it left the stomach. After the operation was concluded, the patient was put to bed in fairly good condition.

Subsequent History.—Nothing eventful occurred until the second day, when the pulse became rapid, though the temperature was practically normal; a marked jaundice was manifest. At the end of the first twenty-four hours after the operation the first dressing was made. At this time the entire dressing was saturated with secretions carried out by our lamp-wick drainage. At the end of the second twenty-four hours, the second dressing was made and the lamp-wick drainage removed. This dressing was also fairly well saturated with secretions. On the third day the jaundice was more marked. On the fourth day, the jaundice began to fade and had about all disappeared at the end of the first week. During the first week, the patient was fed by nutritive enemata and the saline solution was continued through the first ten days, nothing being administered by the mouth, except occasional teaspoonsful of iced water. During the first ten days, the temperature ranged from 97 to 101 F. This temperature was largely accounted for by the infection of the abdominal stitches. These stitches were placed under more than ordinary tension, as the patient was very much bloated at the time of the operation and the abdominal cavity was further distended to its full capacity by saline solution.

After the tenth day the patient was fed with milk and lime water and predigested foods, plenty of liquids being administered at regular intervals. This form of nutrition was continued up to the fourteenth day, after which time he was allowed a liberal diet of light foods, both solid and liquid, and all the fluids that he desired.

During the second week the patient developed a marked dyspnea which was manifest by shortness of breath, a moderate cough and a pain in the right side on breathing and coughing. There was no spitting of blood or rusty sputum, but examination revealed consolidation of the lower lobe of the right lung and of the posterior surface of the middle lobe extending as high as the superior border of the scapula.

These conditions remained practically unchanged up to the twenty-first day, except that there was an increased temperature and pulse rate until the night of the twenty-first day, when he had a profuse sweat and the temperature fell to normal. Pain left and breathing became quite natural, this evidently being the crisis, which came suddenly and was very marked.

After this the lung conditions remained very obstinate as far as clearing and restitution of function were concerned, it being a very marked and stubborn case of delayed resolution. By the fifth week, however, the lungs were fairly clear and the patient steadily improving. This progress continued up to the forty-eighth day, at which time he was able to take short walks and to take care of himself very nicely, and was discharged from the hospital on this day.

Remarks.—I believe that drainage was of inestimable service in this case. The patient had comparatively thin abdominal wall and a moderately fat omentum, and this, together with the median incision, very much lessened the operative difficulties of seeing and treating the double rent in the stomach and gave ample room for inspecting other viscera and cleaning the wound.

The treatment of gun-shot wounds of the stomach as practiced by military surgeons in the field, which is shown to be uniformly unsuccessful, has led many physicians to believe that laparotomy is not indicated in these injuries, and probably some lives have been sacrificed by not treating them promptly by operation. This, however, should not be undertaken unless surroundings are favorable for clean and aseptic work.

I am indebted to Drs. Frank Miller and C. E. McCauley for valuable assistance and suggestions in the treatment and after-care of the patient. I am also indebted to the Sisters of St. Luke's Hospital for special care and preparation of the patient.

CHRONIC PURPURA HEMORRHAGICA.

H. H. LOVELAND, M.D.
SYRACUSE, N. Y.

The editorial statement in The Journal, June 10, that chronic forms of purpura hemorrhagica are so seldom mentioned in medical literature that we are apt to regard them as being exceedingly rare, leads me to report a case that came under my observation during the years 1896 to 1903, inclusive.

Patient.—C. D., male, was born May or June, 1895, date not certain. His parents were of German birth, and both of them exceptionally large people, each weighing over 200 pounds, but well proportioned and in vigorous health. This child was one of twelve, five of whom died in infancy, or in very early years, the others being in excellent health.

History.—I first saw him with the physician who had attended him from birth, in December, 1895, and the beginning of the following year he came under my care and remained so till October, 1903. He was a large, well-formed, fat baby of 6 or 7 months. He was somewhat anemic, but there was no discoloration, sponginess or hemorrhage of the gums, no swelling of the thighs, or any of the classical signs of scorbutus. The mother was nursing him. She had plenty of milk, of a good quality. He was nursed until 18 months of age, the last six or seven months potatoes and other foods also being used. As the child developed he ate bread and butter, meat, potatoes and other vegetables, fruit, etc., the same as the rest of the family, and as they kept a cow he had plenty of good cow's milk. I do not know when the purpura began, but it must have been in the very early months, for I was told that he had received nearly every known treatment, but to no purpose thus far. From that time I had frequent opportunity to witness the appearance, course and disappearance of the purpuric areas. From the first date given until some four years later the child was scarcely ever without the spots somewhere on his body, varying in size from that of a dime to that of a small orange. One of the latter I saw on his forehead once, and, if I had not known the cause I should have thought that he had received a severe blow with consequent ecchymosis, the disappearance of the spot being the same as that from a blow—gradually turning from red to dark blue, and then greenish yellow, etc., until it faded away entirely. After his fifth year the spots appeared at gradually lengthening intervals, and the rheumatic phase of the case became more prominent. The child had severe inflammatory reaction about the joints, especially the knee and shoulder. Salicylates were administered faithfully, but apparently with no effect. He had previously had Fowler's solution, syrup of hypophosphites comp., and other tonics.

The knee became partly flexed, and in spite of all that I could do to get him to use the leg and knee or his parents to manipulate them during the intervals, he continued to go about with a partly flexed knee and used a crutch or stick to assist him in walking. His blood was thin, lacking in color, not easily coagulated, and he bled excessively from the slightest wound, though I was generally able to check hemorrhage by the use of Monsel's solution and tightly applied bandage.

The case may be considered by some as one of scurvy, but from the fact that there was no emaciation, no spongy or bleeding gums, no swelling or deformity of the thigh, leg or other bones (at least for the first five years), and also because there was no apparent reason for such trouble in the food, either as regards quality or quantity, I have not been able so to classify it. My removal from the locality has taken from my observation what was to me a very interesting case.

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THE ETIOLOGY OF SYPHILIS.

If the causal agent concerned in the production of syphilis is still unknown, it is not from any lack of attempts to discover it. At a recent meeting of one of the German medical societies, Lassar of Berlin stated his belief that in the past twenty-five years twenty-five parasites of syphilis had been discovered. Those who remember Aesop's fable of "The Boy Who Cried Wolf" will readily appreciate the attitude of the general run of the medical profession toward anyone who comes forward with a new cause of syphilis. One is reminded, too, of the remark of the sage therapeutist, that the chance that we possessed a specific remedy for a given disease was in inverse ratio to the number of drugs which were claimed to be efficacious in its treatment. There is little doubt, however, reasoning from analogy, that syphilis is an infectious disease due to a parasite, the only point at issue being the exact nature of its cause. On account of the recent discoveries of protozoon-like bodies in certain of the exanthemata, several observers have hazarded a guess that syphilis is a protozoan infection, though one can not help suspecting that it might just as well be due to some ultramicroscopic parasite.

The latest champions to enter the lists of the parasitology of syphilis are Schaudinn and Hoffmann,[1] who claim to have discovered in various syphilitic lesions a spirochete, which, on account of its refractivity to stains, they call *Spirochæte pallida.* In their early communications, they described the organism on the surface and in the depths of primary lesions, later it was described in the juices from the indolent glands which characterize the disease. The organism was observed both in a living state and in smears stained by a modification of Giemsa's blood stain. In a living state, it appears as a very fine, slightly refractive, actively motile spirillum. It is thread-like, twisted in spirals like a corkscrew, and pointed at the ends. Schaudinn considers that it is not a true bacterium, but belongs in a class with the spirochete of relapsing fever. In stained preparations, its most prominent characteristic is its great refractivity to stains, and this probably explains why it has not been observed by previous investigators. Since the first descriptions of Schaudinn and Hoffmann several observers[2] have substantiated and extended their claims. The organism has been found by Buschke and Fischer in the internal organs of a child dead of congenital syphilis, and has been observed by Metchnikoff in the lesions of experimental syphilis in the ape. It has been noted also by several syphilologists in blood obtained by puncture of the skin lesions of the secondary stage of the disease.

One is impressed in the accounts of the various investigations with the conservative attitude assumed by the various observers. The presence of the organism is stated as an objective fact, but no one seems to have been in haste to state outright that it is the cause of syphilis. In the present state of our knowledge, this is an eminently proper attitude. It is, of course, not an impossibility that the *Spirochæte pallida* is merely a saprophyte. Many of us can remember Lustgarten's experience with his syphilis bacillus, which was shown later to be a normal inhabitant of the smegma. The fact that the organism is present in the internal organs does not necessarily militate against this view; nor must the fact be forgotten that it is particularly in the diseases which most closely resemble syphilis, the exanthemata, that secondary invaders are apt to follow close on the heels of a primary causal agent. The rôle played by the streptococcus in scarlet fever and smallpox strongly suggests that a similar process may occur in connection with syphilis. We have long been acquainted with the fact that spirochetes are normal inhabitants of the body. They have been described frequently both in the mouth and on the genitalia. While one can not but be impressed with the discoveries which have followed the work of Schaudinn and Hoffmann, all the above factors must be taken into account, and we must leaven our judgment of their achievements with a proper amount of that healthy scepticism without which permanent progress is impossible.

ENTEROGENOUS CYANOSIS.

The number of diseases marked by a severe grade of cyanosis is not large, and most of them come under two or three headings. If congenital heart disease be absent, then it is usually a case of emphysema, or the patient has been indulging indiscriminately in one of the coal tar products which, in the form of headache powders, can be purchased at any of the numerous soda water drug stores. Of late years, Osler and others have called attention to still another form of cyanosis, that which is accompanied by splenomegaly and polycythemia. In 1902, Stokvis of Amsterdam called attention to what he called autotoxic enterogenous cyanosis, and van den Bergh has recently reported two new cases of this rare condition.[1]

The symptom complex as described originally by Stokvis had as its three main features, enteritis, marked cyanosis, and a clubbed condition of the ends of the fingers. Examination of the blood, by illuminating the hands, showed the presence of methemoglobin, and as any of the various drugs which could produce this condition were excluded, Stokvis concluded that the cyanosis was associated with the intestinal disturbance and was probably due to toxic products formed in the intestine. The three cases of Talma had similar symptoms, and this observer was able to show that methemoglobin could be demonstrated not only in the patient's circulation, but also in blood withdrawn from it. The cases reported by van den Bergh add to our knowledge of the subject, inasmuch as they show that the cyanosis is not always due to methemoglobinemia, and also that there are cases which do not show all the three cardinal symptoms. In one of van den Bergh's cases with the classical symptoms of the disease, the spectrum analysis of the blood showed that the cause of the cyanosis was not a methemoglobinemia, but a sulphomethemoglobinemia. It was shown that in this particular case, a child with a rectovesical fistula and partial obstruction of the bowels, the feces in solution, if added to blood, would produce the spectrum band of sulphomethemoglobin, and it was further shown that the feces contained large quantities of sulphuretted hydrogen. An interesting fact in connection with this case was the disappearance of the cyanosis when the intestinal obstruction was removed and the bowels thoroughly cleaned out, and its subsequent reappearance on a recrudescence of the former condition.

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[1] Deut. med. Woch., Vol. xxxi, No. 18. The Journal A. M. A., June 3, 1905, p. 1790. Staining technic on page 1870.

[2] Ibid., July 1, 1905, p. 77.

[1] Deutsches Arch. f. klin. Med., 1905, Vol. lxxxiii, 86. The Journal A. M. A., page 79.

The pathogenesis of the condition still seems obscure. In cases where it is shown that gases like sulphuretted hydrogen are formed in the intestine this does not suffice to explain the disease, for the presence of large amounts of this gas is quite frequent in a number of pathologic conditions, and even under normal circumstances. The old Bergeon treatment of pulmonary tuberculosis by intestinal injections of sulphuretted hydrogen will be remembered by many, and it will be recalled that no cyanosis of the patient resulted from this treatment. In most of the reported cases of this condition, a true methemoglobinemia has been present, and so far attempts to explain the cause and origin of this have been unsuccessful. Knowing, as we do, that certain chemical substances have the power to produce cyanosis, it seems logical to suppose that similar substances can occasionally be formed in the body, but whether as the result of bacterial activity or not is hard to determine. Probably some abnormal condition of the intestinal wall must be present, as well as the mere presence of the poison, and probably certain kinds of food will favor the process. That this is the case was quite conclusively shown in one of van den Bergh's patients in whom the cyanosis disappeared as soon as he was put on a milk diet.

The subject is a fascinating one, but will be very hard to investigate if, as is supposed, it originates in the intestine. When we consider the vast number of chemical substances which are formed in the alimentary tube, and when we realize how inexact in some respects is our knowledge even of normal digestive processes, it seems almost like looking for a needle in a haystack to search for specific poisons in such a collection. For the present we must satisfy ourselves if we are able to recognize this symptom-complex clinically.

THE THERAPEUTIC VALUE OF SILENCE.

The effect of noise on those who are ill has long been recognized. Of course, from "noise" we exclude those rhythmical sounds that we call music, which are decidedly restful to most persons when tired. It is the unmusical sound that wearies. Tan bark is spread over city pavements in front of the dwellings of the critically ill, and patients are placed in quiet rooms. Hospitals are not always erected in quiet neighborhoods as they should be, but usually there is apparent some effort to protect the inmates from noises. When life hangs by a thread, absolute silence in and about the sick room often is enjoined. In fact, physicians have generally and consistently endeavored to diminish noises in the environment of the ill. Occasionally a voice is raised in protest against the multitudinous and seemingly unnecessary and steadily increasing noises that assail the ears of city dwellers. At such times the proposition has been laid down that excessive constant noises are inimical to the best state of health, and there is some demand for the protection of those who are not ill from the detrimental clatter of urban life.

While physicians have approved and practiced all these measures when applicable, and so far as circumstances permitted, it is to the neurologists who systematized the "rest cure" that we owe some appreciation of the real therapeutic value of silence in the treatment of neurasthenia and "brain-fag." Withal, however, little thought seems to have been given to the possibility of the existence of an "eartire," analogous in its reflex manifestations to "eyestrain." This conclusion, however, seems to follow naturally from the observations and methods of those experienced in the treatment of neurasthenia. Uniformly "quiet" is insisted on for these cases, and the worn out broker, as well as the weary "society" leader, is restored quickly to health by the quiet of an ocean voyage or of a remote mountain, forest, or lake resort. The elements of rest, change and air have in such cases heretofore been uppermost in our minds, but there is much ground for the belief that the relative absence of noise has been a potent factor in producing the good results of such therapeutic measures. Of course, the evil results of eyestrain, being due to abnormalities of function in a much more complex organ, are perhaps more readily demonstrable than are those due to "eartire." It has been a long and arduous task, however, to convince the world of the manifold ills resulting from unrelieved eyestrain, while physicians, as we have shown, have ever recognized some of the benefits of quiet. For certain troublesome neurasthenic cases, particularly in women, this discussion suggests a practical therapeutic measure. We see women utterly exhausted by a day of noisy shopping or nearly as noisy social duty, and they seek relief in many expedients. For them prescribe each day until relieved one or two or three hours spent in the quietest available spot, and insist on even the absence of conversation and of the sounds of their own voices, for there are many who wear out their nerves talking and listening to others talk.

Many trying "nervous" cases are amenable to the "silence cure," just as so many others have been entirely relieved by the correction of errors of refraction. Many educated persons and some famous ones long since found out for themselves, in empirical fashion, the physical pleasure and nerve restfulness of periods of quiet, and physicians can not do better than learn therefrom something of the therapeutic value of periods of silence.

THE PHYSICIAN AND THE FOURTH.

The Fourth of July has come and gone, half a hundred persons are dead and thousands injured and the count is not completed.[1] As usual, the accidents are in two classes, the immediate and the remote—in other words, the direct injuries from the explosives and the tetanus that develops later. The former are usually large wounds, the latter small and comparatively insignificant. On the other hand, the deaths caused by the former variety are few compared with those caused by the complications of tetanus in the latter. The physician's responsibility is also very different in the two classes. In the first—aside from the prompt and thorough care that the nearest medical man is expected to give in any accidental injury regardless of its relation to the Fourth—the physician's responsibility is that of any citizen in securing restrictive laws and their enforcement, and that of any other parent, adult or citizen in aiding the reckless youth to minimize carelessness and danger. As to the remote result, tetanus, however, the physician is in a particularly important position. Although tetanus may follow the most thorough treatment of a wound, the fact remains, as shown by the results of a compilation of many cases, that thorough, deep opening and cleansing of the insidious wounds prevent many cases of tetanus and that prophylactic injections of serum are of great value. Here is the physician's opportunity. Last year the following out of this principle saved many lives. Let no physician fail in his duty this year.

CONCERNING SNAPSHOT DIAGNOSIS.

One of the temptations which come to the clinician of even moderate experience is the tendency to make diagnoses on sight, the so-called "snapshot" diagnoses. The innate desire to play to the gallery which is present to some extent in most of us, as well as the wish to appear preternaturally brilliant in the eyes of the public or the student, is the cause of this temptation. Even the most conservative among us gets into the habit of making subconscious snapshots when he almost unconsciously sizes up a patient at his first visit. While such diagnoses are occasionally justified, they are, in the long run, severely to be condemned. Certain diseases are, in their well-marked forms, so characteristic that even the tyro can hardly fail to recognize them. A number might be mentioned, acromegaly, exophthalmic goiter, myxedema, and osteitis deformans among the rest. But it is in the fruste forms of just these diseases that diagnosis may be most difficult. The habit is one which, in the long run, leads to careless observation, and while it leads to a few brilliant diagnoses, causes many regrettable mistakes. The humorous side of the matter is well illustrated by a story recounted by Byrom Bramwell in a recent address.[1] A physician who was very great on physiognomonic diagnosis in going through the wards one day directed the attention of his students to the teeth of a patient, saying that they were splendid examples of gouty teeth. The patient, seeing that the professor was so much interested, took the teeth out and handed them to him, asking if he would like to examine them more closely. A word to the wise is sufficient.

Medical News

COLORADO.

Personal.—Dr. Peter O. Hanford, Colorado Springs, has been reappointed health commissioner of that city.——Dr. Thomas G. Horn, Colorado Springs, who has been seriously ill, is said to be out of danger.

Fined for Not Reporting Birth.—Dr. Wilson W. Bredin, Denver, was the first physician to be arrested for failing to turn in a monthly record of births to the health department. He was fined $10 and costs.

Physicians Cleared.—Dr. Roderick J. McDonald, Leadville, physician of Lake County, who was charged by the city authorities with having failed to notify them of the existence of smallpox cases and was fined $50 and costs, appealed the case, and after corroborative testimony from other physicians, was declared not guilty.——In the case of Dr. William H. Kendrick, Colorado Springs, charged with having performed a criminal operation, the judge instructed the jury to bring in a verdict of not guilty.

Hospitals and Sanatoria.—A permit has been issued to build an addition to Glockner Sanatorium, Colorado Springs, to cost $10,000.——Emergency Hospital, Denver, has secured new quarters in a 27-room house, pending the completion of its new building.——St. Mary's Hospital, Pueblo, dedicated its new building with impressive ceremonies June 17. The institution now has 152 rooms.——The Elks of Denver, at a social, raised $3,011 for the transfer of their hospital ward from St. Joseph's to St. Anthony's Hospital, and for other charitable work.——The $15,000 needed to build a woman's pavilion to be added to the National Jewish Hospital, Denver, is assured.

ILLINOIS.

Wholesale Poisoning at East St. Louis.—About 300 attendants at an East St. Louis Masonic picnic June 24 were attacked by symptoms of acute poisoning several hours later, it is supposed from salads which were kept in galvanized iron cans. Dr. Edward W. Cannady was one of those attacked. While many were seriously ill, no fatalities occurred.

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[1] At 2 a. m. July 5. the Chicago *Tribune*, which has carried on such a praiseworthy agitation on the subject, had collected reports of 42 persons dead and 2,431 injured. At the same hour in 1904 there had been gathered 25 deaths and 1,977 injuries; 1903, 48 deaths, 2,936 injuries; 1902, 21 deaths, 1,978 injuries. We call attention to the fact that these figures are only of the direct results. Unless 1905 is a remarkable exception, most of the deaths are yet to occur. THE JOURNAL will collect data as usual and will report after the returns from all tetanus cases are in.

[1] Clinical Studies, vol. iii, part 2.

Embalming and Disposal of Dead Bodies.—Under the act providing for the regulation of the embalming and disposal of dead bodies, for a system of examination, registration and licensing of embalmers, and imposing penalties for the violation of any of its provisions, which was approved May 13, and came in force July 1, no transportation company operating in the state after September 1 will accept a body dead of any contagious or infectious disease, unless it has been prepared by an embalmer holding a license issued by the State Board of Health. After Jan. 1, 1906, any person who shall embalm or hold himself as an embalmer without first having obtained a license from the State Board of Health shall be guilty of a misdemeanor.

Chicago.

Personal.—Dr. N. Senn started for Greenland July 3. He sails on the *Eric*, Lieut. Peary's supply ship, from Sydney, Cape Breton, July 12.——Dr. Vida A. Latham has been elected a fellow of the Linnean Society, London.

Dominant Death Causes.—The five principal death causes for the first half of 1905 were, in order, pneumonia, 2,352; consumption, 1,700; violence, 1,070; heart diseases, 1,071, and Bright's disease, 1,029. In June the order ran as follows: Consumption, 251; pneumonia, 224; violence, 187; Bright's disease, 171, and heart disease, 165. For the week ended July 1 the principal causes were: Consumption, 57; violence, 50; Bright's disease, 44; pneumonia, 41, and heart disease, 30.

Death Causes Compared.—As compared with June, 1904, among the important causes of death, Bright's disease, bronchitis, heart disease, measles, pneumonia, smallpox, typhoid fever and whooping cough show material increases. As compared with May, 1905, there were 99 fewer deaths under 5, and 47 fewer over 60 years of age. There were 12 fewer deaths from acute intestinal diseases; 8 fewer from Bright's disease; 14 from bronchitis; 11 from consumption; 12 from cancer; 14 from convulsions; 56 from heart disease; 5 from influenza; 6 from measles; 61 from nervous diseases; 47 from pneumonia; 20 fewer suicides and 37 fewer deaths from whooping cough.

Low Mortality for the Half Year.—At the close of the first six months of the year the Department of Health predicts that 1905 will establish a new record for the healthfulness of the city. This prediction is based on the fact that the average annual death rate of the first six months of each year during the ten years, 1895-1904 inclusive, was 15.51 per 1,000 of population. For the last six months of each year the average was 14.43, or 7.48 per cent. lower. The rate of the first six months of 1905 is 14.09—the total deaths being 13,918. If the second six months should be 7.48 per cent. lower than the first six months its rate will be 13.04, the total deaths for the year about 26,800, and the annual rate for 1905 will be 13.56—the lowest ever recorded for Chicago.

Much Smallpox.—Dr. Heman Spalding, chief medical inspector of the Department of Health, reports that during the first six months of 1905, 500 smallpox patients were removed to the Isolation Hospital. He remarks:

> The disease has been widely scattered over the city, and but for the fact that the population is better vaccinated than ever before in its history a serious and destructive epidemic would have been on us.
>
> The type of the disease this year has been severe, but the death rate has been kept down to about 10 per cent. This speaks well for the resident physician and the nurses.
>
> Of the 500 cases, 128 showed evidence of having been vaccinated somehow and sometime in early life. None had ever been revaccinated, however, and the shortest period between the early vaccination and the attack of smallpox was nineteen years; most of them were above 30 years of age.
>
> One hundred and nine were unvaccinated children under the school age of 6 years. Twenty-seven were children unvaccinated, but in school either with false certificates or in attendance in parochial schools without any certificates of vaccination. This makes a total of 138 unvaccinated children under the age of 10 years afflicted out of a total of 500 cases—nearly 28 per cent. of all cases.

KANSAS.

New Hospital for Newton.—The Bethel Hospital and Deaconess Society has been incorporated under the auspices of the Mennonites at Newton. The building to be erected will be ready for occupancy in the autumn.

University Medical School.—More than $6,000 of the $12,500 required for the temporary building of the Medical Department of the University of Kansas, at Rosadale, has already been subscribed, and the building will be ready for occupancy in September.

Contagious and Infectious Diseases for May.—During May there were reported to the Kansas State Board of Health 448 cases of smallpox, with 2 deaths; 98 cases of scarlet fever, with 6 deaths; 32 cases of measles; 30 case of diphtheria, with 5 deaths; 42 cases of typhoid fever, with 6 deaths, and 88 cases of, and 44 deaths from, consumption.

Personal.—Dr. Lot D. Mabie, Kansas City, has been appointed county physician of Wyandotte County, vice Dr. J. Frank Hassig, Kansas City, resigned.——Dr. Robert R. Teller, Arkansas City, who was recently operated on for cancer of the throat in Winfield, has been discharged from the hospital, recovered.——Dr. Lewis H. Munn, Topeka, has been appointed medical referee for the Kansas agency, and chief medical examiner for the Mutual Life Insurance Company of New York, at Topeka.——Dr. H. L. Cornell and family, who went to Burmah in October, 1903, have returned to Burlingame.——Dr. Orson F. Lewis, Garden City, has been reappointed a member of the State Board of Medical Registration and Examination.

Conference of Health Officers.—The second annual conference of the county and municipal health officers of the state was held in Topeka, June 27, Dr. T. D. Nichol, Topeka, health officer of Shawnee County, delivered the address of welcome; the secretary of the State Board of Health made his report on legislation; Dr. Sarah E. Greenfield, bacteriologist of the State Board of Health, described the new state laboratory, and in the absence of Dr. Samuel E. Reynolds, Clay Center, there was an informal discussion of disinfection. The afternoon session was devoted to papers on modern sanitation, to the legal status, relation to the community and relation to the profession to the health officer, and to quarantine versus vaccination in the control of smallpox.

MARYLAND.

Baltimore.

Personal.—Dr. James C. Morton is critically ill at the Maryland General Hospital with Bright's disease.——Dr. William H. Smith, late resident physician-in-chief at the Hebrew Hospital, has gone abroad to study.——Dr. Edward H. Richardson has been appointed surgical house officer at the Johns Hopkins Hospital.——Dr. Richard H. Follis, on the surgical staff of the Johns Hopkins Hospital Dispensary, who was married last week to one of the chief nurses of that institution, sailed with his bride to Europe July 1.——Dr. Lewellys F. Barker has leased for several years a house on Franklin Street, in the immediate vicinity of that formerly occupied by his predecessor, Dr. Osler. He will take possession in September.

MASSACHUSETTS.

Seventy-two, Not Twelve, Graduate.—In THE JOURNAL for July 1 it was erroneously announced that a class of 12 was graduated from Tufts Medical College. The number graduated was 72.

Harvard Commencement.—Harvard University Medical School graduated a class of 82, June 28. Nearly all of the class are college graduates and several have the degree of A.M. or Ph.D. The degree "cum laude" was conferred on 25.

Modified Milk for Sick Poor Babies.—With nearly $2,500 already in hand, the Boston Milk Fund has begun its work of furnishing Walker Gordon modified milk to sick poor babies. The parents pay something, but not nearly the full expense.

Children to Have Outing.—About 20,000 children are to be given an outing down Boston harbor this season through the co-operation of the city of Boston officials and the interest of the Randidge fund, which was not used last year, and, therefore, amounts to $4,000.

Park for Tuberculous.—Boston is to have a park for the use of tuberculous patients in an open space on Parker Hill. Here the Association for the Relief and Control of Tuberculosis will receive and care for patients. Steamer chairs to rest in, tents for shelter in case of rain, two luncheons and a hearty midday meal, nurses, constant attendance and a daily visit from a physician will do much to make this day sanitarium a success. The work began July 5.

Deaths and Disease.—For the ten weeks ended July 1 there were reported to the Boston Board of Health 2,028 deaths, an increase of 61 over the reports of the same period last year. There were recorded 259 cases of diphtheria, with 22 deaths; 250 of scarlet fever, with 15 deaths; 96 of typhoid fever, with 10 deaths; 248 of measles, with 3 deaths; 419 cases of tuberculosis, and 260 deaths; smallpox, 1 death; pneumonia, 226 deaths; whooping cough, 5 deaths; heart disease, 228 deaths; bronchitis, 48 deaths, and marasmus, 25 deaths. Of the total deaths 292 were in infants under 1 year old, 449 in children under 5, and 481 in individuals over 60 years of age.

MICHIGAN.

New Hospital for Port Huron.—The new Port Huron Hospital was thrown open to the public June 8. The building complete cost about $32,000 and has accommodations for 50 patients.

Illicit Practitioner Goes to Jail.—"Dr." Edward J. Bell, Detroit, was convicted of violating a medical law, and was sentenced to jail for ninety days in default of payment of a fine of $45 and $5 costs imposed.

Appropriation for Consumptive Hospital.—The bill appropriating $30,000 for a state sanatorium for consumptives, $15,000 for building and equipment, and $15,000 for maintenance for two years, has passed the legislature.

Convicted of Larceny.—"Dr." Irving E. Sanders, Detroit, who was charged with larceny by conversion of money belonging to Mrs. Rosa Jones of Tecumseh, was found guilty, and sentenced to imprisonment in the state penitentiary for not less than two and a half nor more than five years.

Fraud Order Issued.—The Postal Department has issued a fraud order against the Northwestern Medical Association, the Northwestern, the Lincoln Clinic and Prof. George W. Howard, in which four names a mail-order medical business has been carried on at Lincoln and Grand River avenues, Detroit.

Fee Bill of the County Society.—The Oakland County Medical Society has adopted a schedule of prices for coroner's cases as follows: Thirty dollars for each physician taking part in an autopsy; $25 a day for each physician giving expert testimony, while the minimum charge for viewing a dead body and testifying before a coroner's jury will be $10.

Medical Bill Sustained.—Dr. James D. Kennedy, Detroit, who filed a bill in the Circuit Court to restrain the State Board of Medical Registration from revoking his license to practice, has lost his case, as the circuit judge, in an opinion handed down June 2, holds constitutional the act of 1903 regulating the practice of medicine in the state, dismisses the bill filed by Dr. Kennedy, and dissolves the temporary injunction.

Smallpox.—By order of the Board of Health, all schools and churches in Grand Rapids were closed June 12, on account of smallpox, which has taken on the nature of a dangerous epidemic. There were at that time 75 cases in the city. Eight special physicians are conducting a vaccination campaign, but they report that a great many absolutely refuse to be vaccinated.

State Board of Medical Registration.—The governor has reappointed Drs. Joseph H. Cowell, Saginaw; William Bell, Belding; Henry B. Landon, Bay City; Beverly D. Harison, Sault Ste. Marie, and Albertus Nyland, Grand Rapids, members of the State Board of Medical Registration and Examination.——Dr. John L. Campbell, Birmingham has been appointed a member of the board, vice Dr. Henry B. Landon, Bay City, and will assume the duties of the office October 1.

May Mortality.—The total number of deaths reported for the month of May was 2,700, a decrease of 322 from April. The death rate was equivalent to an annual rate of 12.5 per 1,000, as compared with 14.4 for the preceding month. There were 456 deaths of infants under 1 year, 140 deaths of children aged 1 to 4 years, and 837 deaths of elderly persons aged 65 years and over. Important causes of death were as follows: Tuberculosis, 232; typhoid fever, 22; diphtheria, 28; scarlet fever, 5; measles, 20; whooping cough, 16; pneumonia, 171; meningitis, 43; cancer, 147; accidents and violence, 181, and smallpox, 18.

Personal.—Dr. Albert E. Bulson has been reappointed medical director of the Jackson City Hospital.——Dr. C. J. Sorsen, Laurium, sailed for Liverpool on the *Umbria*, June 10.——Dr. Margaret R. Otis has succeeded Dr. Millie E. Wilson as house physician of Emergency Hospital, Detroit.——Dr. C. Henri Leonard had conferred on him the honorary degree of LL.D. by Tufts College, June 21.——Dr. Theodore A. McGraw has been re-elected president, and Dr. Henry O. Walker, secretary of the faculty of the Detroit College of Medicine.——Dr. Alexander McMillan, Lansing, is now in a hospital at Chatham, Ont., as the result of injuries received by being struck by a train on the Canadian Pacific Railroad.—Drs. Howard B. Baker and Edmund Quandt have been appointed city physicians, and Dr. B. W. Pasternacki has been reappointed a city physician of Detroit.—Dr. James C. Rutledge, Detroit, has been appointed county physician of Wayne County.—Dr. Elliott K. Herdman, Ypsilanti, has been reappointed school physician.——Dr. Ernst A. Wittwer, Auburn, expects to study for a year in Europe.——Dr. Norman J. Pike has been made president of the Saginaw Board of Health.

MINNESOTA.

Commencement.—The Medical Department of Hamline University, Minneapolis, graduated a class of 14 at its twenty-second annual commencement, June 5. Rev. Fayette L. Thompson delivered the commencement address, and President George H. Bridgman conferred the degrees.

Charges Not Sustained.—In the suit for malpractice against Dr. Charles G. Shipman, Ely, in which it was claimed that the plaintiff had not received proper treatment in and after the amputation of a leg, and that his sufferings were valued at $10,000, the jury, after forty-five minutes' deliberation, returned a verdict for the defense.

Personal.—Dr. George E. Benson, Minneapolis, has returned after six months in Germany and Austria.——Dr. and Mrs. Carl Klemer, Faribault, have sailed for Europe.——Dr. Charles G. Weston, Minneapolis, has been appointed a member of the Board of Charities and Corrections, vice Dr. Francis R. Woodard.——Dr. Oskar L. Bertelson has been named as city physician of Crookston.

Hospital Notes.—The new I. O. O. F. Hospital, Northfield, was dedicated with impressive ceremonies June 16.——Anoka, by resolution of its city council, has admitted the State Hospital into the corporate limits of the city.——A field hospital was in operation at Fort Snelling throughout the month of June.——George B. Wright will give Fergus Falls a hospital to cost $25,000, in memory of his father, who founded the city.

Suit Settled.—In the trouble between Dr. Sherman S. Hesselgrave, St. Paul, and Howard T. Hughes, wherein the physician sued for $105 claimed to be due for professional services, and the civilian claimed that his wife had been damaged to the extent of $500 by a hysterectomy, the case has been settled by payment to Dr. Hesselgrave of a portion of his fee, all claims for damages being released.

NEW YORK.

New York City.

Aliens Have Trachoma.—Twenty-five immigrants who arrived on the *Madonna* were sent from Ellis Island to the Long Island College Hospital suffering with trachoma.

More Milkmen Fined.—Heavier penalties than usual were inflicted by the Court of Special Sessions on a number of dealers found guilty of selling adulterated milk. One grocer who was convicted of the fourth offence was fined $250.

To Fight Mosquitoes.—The Board of Health and Dr. Doty, health officer of the port, have joined forces to wage war on the mosquitoes of Staten Island. They have asked the city for $17,000, which they think sufficient to do effective work and to furnish an object lesson and useful data for further operations.

Contagious Diseases.—There were reported to the Sanitary Bureau, for the week ended June 24, 769 cases of measles, with 25 deaths; 462 cases of tuberculosis, with 148 deaths; 207 cases of diphtheria, with 24 deaths; 104 cases of scarlet fever, with 9 deaths; 50 cases of typhoid fever, with 6 deaths; 42 cases of cerebrospinal meningitis, with 34 deaths, and 115 cases of varicella.

Personal.—Dr. August Hoch, McLean Hospital, Waverly, Mass., has been appointed to succeed Dr. Charles E. Atwood at the Bloomingdale Hospital for the Insane.——Dr. William S. Bainbridge has been appointed consulting gynecologist to St. Mary's Hospital, Jamaica, L. I.——Dr. and Mrs. Glentworth R. Butler, Brooklyn, sailed on the *Prinzessen Alice* June 29.——Dr. and Mrs. George A. Dixon sailed on the *Kronprinz Wilhelm* June 26.——Dr. William Rink, of the Cumberland Street Hospital, Brooklyn, while answering an ambulance call, collided with a car and sustained severe internal injuries.

Hospital Patient Branded; House Physician Dismissed.—Considerable sensation was created by the statements of Isaac Chaves, an indigent Hebrew, who claimed that he had been branded with the word "faker" at Bellevue Hospital. Investigation showed that he had been treated with the thermo-cautery for neuralgic pains at Gouverneur Hospital, which is, under Bellevue administration. The physician who treated him, Dr. Dubois Hunt, said that another physician who was watching him remarked, "That's a faker you have," and Dr. Hunt unconsciously traced the word on the chest of his patient. Dr. Hunt was dismissed from the service of the hospital.

PENNSYLVANIA.

Free Beds Endowed.—P. F. Kernan has endowed three beds in St. Mary's Hospital in memory of Harriet Richards. The beds will be under the patronage of the Sisters of St. Francis.

Personal.—Dr. Edwin I. Becker, Germantown, was thrown from his carriage in a runaway accident, June 25, and painfully injured.——Dr. Robert C. Moon, vice consul for Liberia, W. A., left for Europe on the *Cedric* June 16.

Dr. Packard Ill.—Dr. Francis R. Packard, editor of the *Journal of the American Medical Sciences*, was thrice operated on in the Pennsylvania Hospital for an infection of his left forearm and hand which resulted from opening a post-pharyngeal abscess. He has been extremely ill, but is reported to be progressing toward recovery.

Health Report.—The total number of deaths from all causes reported during the week aggregated 441, as compared with 551 for last week and 533 for the corresponding period of last year. The principal causes of death were typhoid fever, 14; diphtheria, 10; pulmonary tuberculosis, 52; cancer, 16; apoplexy, 22; heart disease, 34; acute pulmonary disease, 29; enteritis (under 2 years), 58; enteritis (2 years and over), 9; cirrhosis of liver, 5; appendicitis, 5, and Bright's disease, 34. There were 158 cases of contagious disease reported, with 25 deaths, as compared with 227 cases and 17 deaths for the preceding week, thus showing a decrease of 69 cases.

TEXAS.

Personal.—Dr. John O. McReynolds and family, Dallas, have returned from Europe.——Dr. R. P. Harben, Richardson, has been made president of the local board of education.

Mourns for Mellish.—The El Paso County Medical Society at its last meeting adopted resolutions regarding the death of Dr. Ernest J. Mellish, which set forth his merits as a man and a physician, and deplored his loss.

Graduating Exercises.—The graduating exercises of the Medical Department, University of Texas, Galveston, were held May 31. The address to the graduating class was delivered by Professor R. R. D. Cline of the School of Pharmacy. Diplomas were conferred by President W. L. Prather on a class of 22.

In the Hands of the Law.—Paul J. Marks, an oculist of Houston, was fined $25 and costs for failure to pay occupation tax at Rosenberg.——In the case of W. W. Stone, Jackson County, who was fined $50 for practicing without a license and who appealed from the decision, the court of criminal appeals held that the law is constitutional.——"Dr." H. M. W. Smith, Lufkin, was fined $50 and costs at Shreveport, La., for carrying a pistol.

State Board Appointed and Organized.—The governor has appointed the following persons to constitute a state board of medical examiners: Drs. J. T. Wilson, Sherman; Sam R. Burroughs, Buffalo; Thomas J. Bell, Tyler; Stephen T. Turner, El Paso; Don J. Jenkins, Daingerfield; Matthew M. Smith, Austin; Thomas T. Jackson, San Antonio; Robert T. Morris, Houston, and Arthur C. Scott, Temple. At an executive session of the board June 13, Dr. Burroughs was elected president; Dr. Bell, vice-president, and Dr. Jackson, secretary-treasurer.

WISCONSIN.

Commencement.—A class of 37 was graduated from Milwaukee Medical College May 15. Dr. Walter H. Nielson delivered the address on behalf of the department of medicine, Rev. R. F. Corcoran the doctorate address, and the president, Dr. William H. Earles, conferred the degrees.

Found Not Guilty.—In the case of F. C. Thom, Sparta, "professor" of a new method of healing, charged with practicing medicine without a license, the jury found the defendant not guilty.——Dr. Axel E. Hedback, Barron, was accorded the verdict in the $10,000 damage suit, for alleged malpractice, brought against him by one Findlay.

Hospital News.—Sinai Hospital, Milwaukee, has been given $5,000 by the eccentric philanthropist of Waverly, Iowa, Abraham Slimmer.——Miss Elizabeth Plankinton has given a hospital building to Milwaukee-Downer College.——Luther Hospital, Eau Claire, without capital stock, has been incorporated.——The citizens of Bloomer have subscribed $3,000 to a hospital building fund.

State Board Denied Power to Revoke Licenses.—The physicians of the state were unsuccessful in their fight to secure the passage of a bill giving the State Board of Medical Examiners the power to revoke the licenses of practitioners claimed to be guilty of unprofessional conduct. As it became apparent that the senate would not consent to confer this power on the state board, the physicians offered of their own accord a bill which gives the medical board practically only the power of a complaining witness and gives a physician against whom proceedings are brought for the annulment of his license the right of a trial by jury.

GENERAL.

Leper Hospital in Hawaii.—Surgeon-General Wyman, who made a trip to Hawaii for the purpose, has selected a site for a leper hospital on Molokai. The site is about a mile square, near Kalawao, the eastern town on the settlement.

Plague and Smallpox in the Philippines.—*Public Health Reports* states that a case of plague was discovered in Cavite during the week ending May 26. Two cases of smallpox were reported in Manila during the week ending May 20.

Plague on the Isthmus.—No other cases of bubonic plague seem to have developed following the fatal case which was reported at La Boca. The companions of the dead man were isolated and all precautions taken to prevent the disease obtaining a foothold.

Cholera in Manila.—The residents of Mariquina Valley are to be indemnified for losses sustained during the cholera epidemic in Manila. The losses sustained were caused by the sanitary engineer ordering the removal of certain houses along the Mariquina River.

American Climatological Association.—At the annual meeting of this association, held at Detroit June 20, the following officers were elected: President, Dr. E. L. Shurly, Detroit; vice-presidents, Drs. Blackader, Montreal, and Sewall, Denver; secretary and treasurer, Dr. Guy Hinsdale, Hot Springs, Va. The next meeting will be held at Atlantic City.

Yellow Fever in Panama.—According to the report of Acting Assistant Surgeon Mohr, in *Public Health Reports*, yellow fever is widely disseminated both in Panama and Colon, and that in spite of extensive fumigation there still remain undiscovered foci of infection. He states that from June 12 to June 16 there have been officially reported in Panama 13 new cases of yellow fever and 4 deaths; in Colon, 1 new case and 1 death. These bring the total number of cases on the Isthmus from June 1 to June 15 to 24, with 7 deaths.

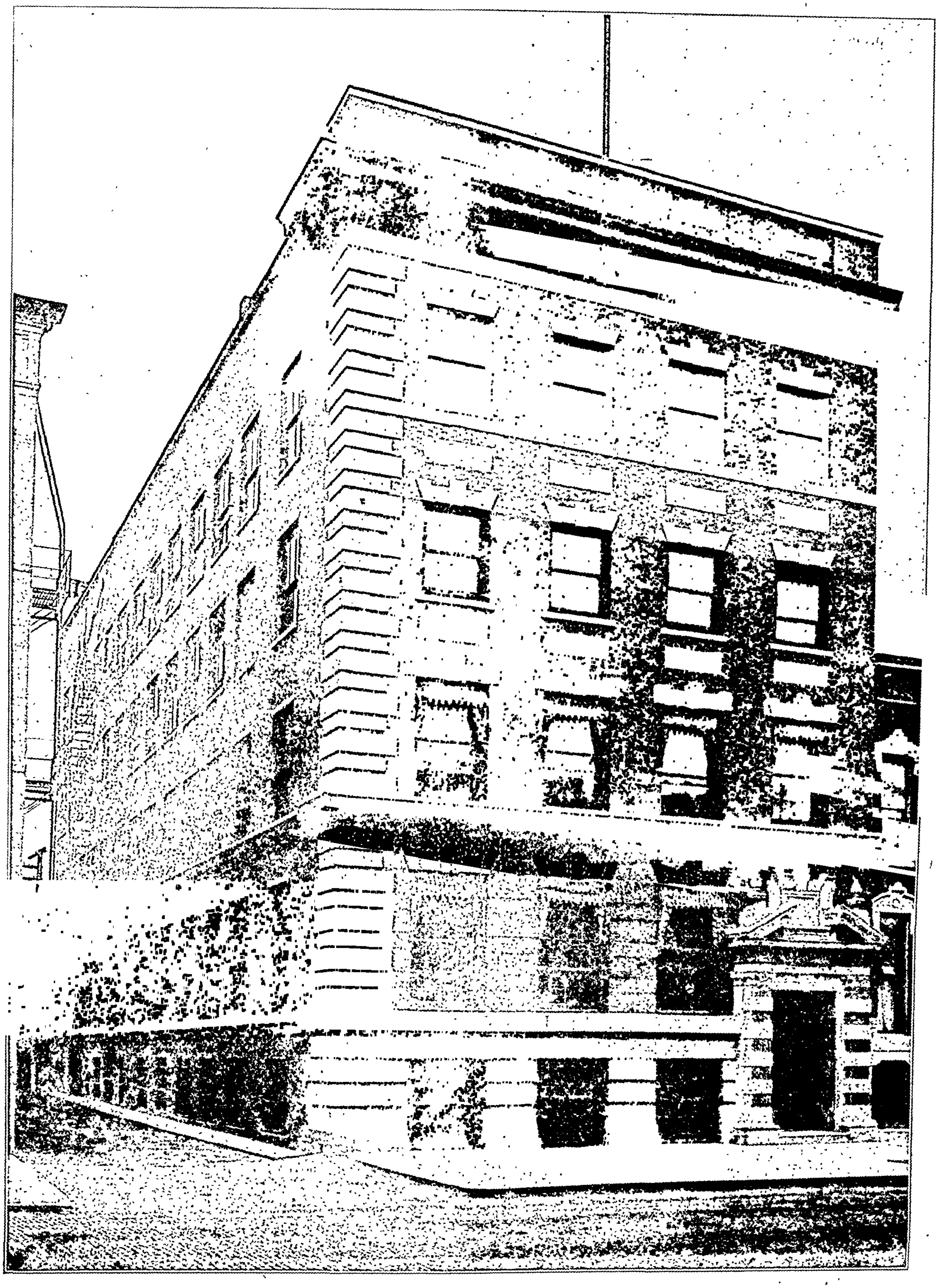
Mosquitoes on the [illegible] to *Public Health Reports*, since the begi. [illegible] season, mosquitoes have been so abundant as to constitute a veritable plague. Even the north beach, which is generally free during the prevalence of the trade winds, is infested with swarms of them. The most prominent genus at present seen is the anopheles, although the stegomyia is also abundant. The hospital situated on the reef along the northern edge of the island, swarms with mosquitoes of all varieties, which are to be found in the nets in the screened wards. No sooner is a building opened after fumigation than it is again filled with mosquitoes. Considering the enormous area of standing water in and around the town, the problem of the extermination or even diminution in the number of mosquitoes presents almost insurmountable difficulties. Whatever has been done in the city of Colon in the way of mosquito extermination has thus far shown no results.

CANADA.

Personal.—Dr. W. D. Brydone-Jack, Vancouver, B. C., has returned home after a visit at the hospitals of New York, Montreal and Chicago.

Seek Sanitarium Site.—A number of medical men from Winnipeg recently inspected a site for a consumption sanitarium near Holland, Man. They went out on the invitation of Dr. Pennyfather of the latter place who is furthering the movement.

Hospital Merger Off.—The proposed merger of the Montreal General and Western Hospitals of Montreal, which is said to have originated at McGill University, is now said to be off. The board of management of the Western Hospital is opposed to any such amalgamation at the present.



AMERICAN MEDICAL ASSOCIATION BUILDING, CHICAGO.

Want Consumption [illegible] [illegible] deputation from the five counties of Perth, [illegible] Brant and Oxford waited on the Ontario Government a few days ago asking that the $4,000 grant to each of these counties for the purpose of a consumption sanitarium be doubled, as the municipalities of these counties had decided to erect a sanitarium, the first instance where any municipality or group of municipalities had sought to undertake this work in the province of Ontario.

To Help Hospital.—The Board of Controllers of Toronto will recommend to the Toronto City Council that a grant of $200,000 be given to the Trustees of the Toronto General Hospital toward purchasing a building site. It is further stated in connection with this matter that as soon as the money is forthcoming from the city of Toronto that each of four gentlemen in Toronto will contribute $100,000, which, along with the $100,000 given by Mr. Cawthra Mulock and the $300,000 promised by the Ontario government, will enable the board of trustees to commence operations.

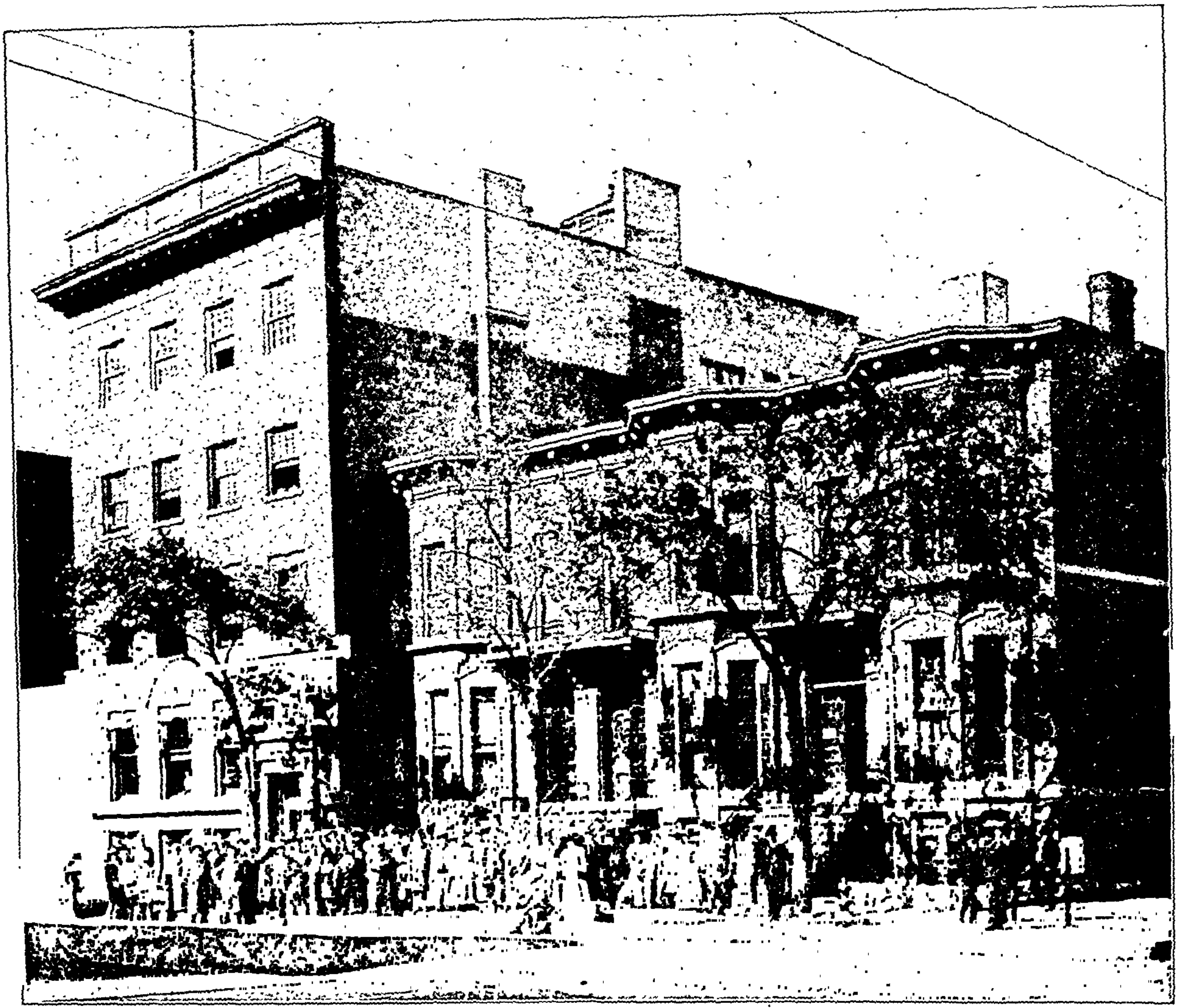
Manitoba College Matters.—Many changes have been made in the medical faculty of the University of Manitoba at Winnipeg. Nine new professors have been appointed, and the college course has been extended to five years. The faculty as now constituted will number about thirty. Hereafter more attention will be paid to clinical work. The erection of the new medical building alongside the General Hospital, is being prosecuted vigorously, and if not completed in time for the beginning of the fall term, will be ready for occupation by the first of the year.——Alterations are proceeding at the Winnipeg General Hospital, especially in the administration portion of the old building, the entire front of which, when completed, will be taken up with offices.

FOREIGN.

Plague in Australia.—Seven cases of bubonic plague occurred at Ipswich, Queensland, during the week ending May 13. All these cases were directly traceable to one produce store, which was in a dirty and dilapidated condition.—*Public Health Reports.*

Beriberi in Nicaragua.—According to *Public Health Reports,* on June 10, a man was taken to Bluefields suffering from the dropsical form of beriberi. He had contracted the disease in the gold mines in the Piz-Piz district. He noticed alarming symptoms exactly a month previous to the date of his death, which occurred on June 10, the day of his arrival at Bluefields. Prior to this, beriberi had never occurred in Bluefields.

Plague in Siam.—According to Dr. H. C. Highet, chief medical officer of the sanitary department, Siam, Bangkok, the capital of the country has been visited for the first time by an outbreak of bubonic plague. In December, 1904, the health department received information that a number of suspicious deaths had occurred on the west side of the river. On investigation it was proved that they were due to plague. There



AMERICAN MEDICAL ASSOCIATION CHICAGO PROPERTY.

The above illustration shows the American Medical Association building and houses adjoining. The property is on the northeast corner of Dearborn Avenue and Indiana Street, extending 100 feet on the former and 120 feet on the latter. In front are members of the New York and Philadelphia special party, whose call en route to Portland was mentioned in The Journal last week.

was also a history of great mortality among the rats in the locality for a week or two previous to the outbreak. The cases were practically limited to a settlement of British Indians. It was not learned how the infection entered Bangkok. Of 29 patients 23 died, a death rate of 79 per cent., which Dr. Highet states agrees with epidemics in other places in the East.

Present Status of the Sanatorium Movement in Germany.—A letter from Berlin in the *Münch. Med. Wochft.* for June 20, states that Germany now has more than 9,000 beds in the various public and private sanatoria for persons with pulmonary tuberculosis. Some of the beds are unoccupied during the winter months, and the directors protest against this neglect of the opportunities offered. There are also 42 special antituberculosis dispensaries, and 40 more are already planned. The number of persons able to work longer than five years after completing their course at the sanatorium is constantly increasing. The lack of sanatorium accommodations for tuberculous persons belonging to the class above the wage-earners is seriously felt. The tuberculous wage-earner is taken care of by the official sickness insurance companies, but no provision has yet been made for impecunious members of other classes of society, unable to pay for a course in a private sanatorium. Another lack is the absence of asylums for the incurable tuberculous. The main idea followed in the Berlin antituberculosis dispensary is to provide better home accommodations for the tuberculous. Arrangements are made so that each one can have a room and bed to himself, the extra expense being met by private benevolence. The letter further states that in 67 cases of human tuberculosis examined by Weber, tubercle bacteria of the human type were found in 56, those of the bovine type in 9, and in 2 both types. The advantages of the tuberculosis museum for instructing the public in measures to prevent the disease and to avoid exaggerated fear of its transmission have recently been extolled by Kayserling, who advocates popular illustrated lectures on the subject as an aid in the crusade.

Last Illness of Mikulicz.—The Journal mentioned last February that von Eiselsberg of Vienna had operated on Mikulicz in January on account of an umbilical hernia, and that recovery had been uneventful. This incomplete report was from headquarters, but it now develops that it was intentionally given out to conceal the true state of the case. It seems that, just before Christmas, Mikulicz had noticed a lump in the region of the stomach, and von Eiselberg's laparotomy confirmed his assumption that the lump was the metastasis of an inoperable malignant tumor in the posterior wall of the stomach, invading the pancreas. After recovery from the laparotomy, he took up his work again with renewed energy and kept in harness till the very last. His death was mentioned last week. He was a pioneer in many branches of surgery and was much loved. His father was a lawyer, and wished to have him follow in his footsteps, but Mikulicz preferred medicine and music. He supported himself during his student life by teaching music, and nearly gave up the medical career at last for that of music. The list of his published works more than fills two large columns of small print in the last *Wien. med. Wochft.*, which contains a touching tribute from von Eiselsberg. He refers to Mikulicz's trip to this country two years ago as "a triumphal procession for German science; everywhere he met old pupils, and he was invited to operate in more than twenty different clinics." He was the first to introduce antisepsis into Austria, but later discarded it in favor of asepsis, remarking that absolute asepsis is like squaring the circle. It is theoretically impossible, but it can be done approximately by the mathematician, carrying the figures well into the decimals. Asepsis is theoretically impossible, but it can be approximated so closely by using plenty of decimals that the desired result can be practically attained. He added a number of decimals by his works on the relations of glycerin to the septic cocco-bacteria, the value of iodoform, injections of nucleinic acid to enhance the resisting power of the peritoneum, etc. Every theoretical progress realized he at once sought to apply to practical use in the clinic. The profession honors him particularly for his constant efforts to prevent the splitting up of surgery into small technical specialties. He regarded, taught and practiced it as a grand whole, and protested against mutilating it by ultra specialization. If he had any specialty himself, it was in the surgery of the stomach and pancreas, but even his trained perceptions were unable to detect the signs of malignant disease until too late for successful interference at the early age of 55. He leaves a wife and six children.

LONDON LETTER.

Glanders in London.

The dangers to man from glanders in horses and the liability of the disease to be unrecognized has been illustrated by the following case: A horsekeeper employed by an omnibus company, in whose stables cases of glanders had occurred from time to time, complained of pain in the left side and was feverish on May 1; he was supposed to be suffering from pleurisy. Two days later he was sweating profusely and complained of pain in various joints. On May 8, he was admitted to St. George's Hospital, delirious, with a high temperature and sweating profusely. He was first treated for rheumatic fever, but pustules soon developed on the face, wrists and left ankle, and the cervical glands became enlarged. The condition was then diagnosed as septicemia. Death occurred on May 15. On the day before death it was suspected that the case might be one of glanders, and cultures were taken, which later showed the bacillus mallei. A number of horses belonging to the omnibus company were clinically found to be suffering from glanders and were condemned. The test was applied to 11 other horses, of which 7 proved to be infected and were condemned to be destroyed. Prof. Hobday, one of the inspectors of the London County Council, who dealt with the outbreak of glanders, pointed out at the inquest which was held on the man the insidious character of the disease in the horse and its apparent latency in some cases. The jury recommended that "veterinary inspectors ought to have the power to compel the owners of horses to have the mallein test applied in suspected glanders." In the house of commons the government, in reply to a question, admitted the desirability of amending the glanders order in the direction of making the mallein test compulsory, but said that there were difficulties, both administrative and financial. The government is making inquiries with a view to deciding whether any action can be taken to control the importation of horses into the country. Twelve cases of glanders have been reported to the London County Council in the last five years, but it is doubtful whether this number represents the total. In one London hospital no fewer than seven cases have been diagnosed during the last two years and all were fatal.

Pharmacology

A CRITICISM WHICH IS A COMPLIMENT.

Criticism and opposition are signs of vitality. They are sometimes the sincerest flattery, especially when their source and motives are considered. We, therefore, take pleasure in calling attention to a criticism of the work of the Council on Pharmacy and Chemistry of a "chemical company" whose hearty indorsement was never expected and whose opposition is a compliment to the work undertaken by the Council. It is contained in a little pamphlet entitled "The Added Proof," published by the Od Chemical Company, New York, and is being widely circulated with the evident purpose of discrediting the Council among physicians, without whose support this "chemical company" could not exist. The contention seems to be that a proprietary medicine of secret composition is ethical. That is a matter about which the Od Chemical Company is entitled to hold its own opinion; and it ought to be willing to concede the same right to physicians.

The "criticism" is introduced with a biblical quotation: "——, where the evil spirit (sic) answered the seven sons of Sceva, and said 'Jesus I know, and Paul I know; but who are ye?'—and here is their patriotic answer, which they seem to think, settles the ethical status of their product: "In all seriousness, whence emanates all this matter? It comes not from liberty-loving Americans—the influence must come from abroad; from those raised and nurtured under monarchical or despotic institutions, accustomed to their every imagination, thought, word and act being gauged, guarded and governed by State Rule, and hence unable to live a free, self-moving-life, but rather longing for guardianship and restraint, and naturally wishing, under the pretense of Ethics, or what-not, to force a muzzle on every one else. Let us in America have none of it! 'Eternal vigilance is the price of liberty.'" [The latter sentiment we heartily indorse, although we do not see just where it applies in this case.]

We have received many letters and copies of the circular referred to from physicians, but this week can give space to the following only:

Dr. H. P. Mills, Sheridan, Mo., says:

> "We have often heard of Satan quoting scripture to prove his point; but this case is unique, in that it is one of admitted identity."

Dr. Hollingsworth of Brazil, Ind., sends in the following copy of a letter he wrote to the Od Chemical Company:

> "Your pamphlet, 'the Added Proof,' has just been received. I have been tempted to make your acquaintance on several occasions, but since reading the above pamphlet, am very glad to say that I did not bite. You might be surprised to know how many physicians will be likewise impressed. I am sorry to acknowledge that there is an unthinking class of so prescribe such preparations as you adver of some deluded doctors and the positive advertisement writer. However, we take that other lines of business have this sar contend—even all manufacturing chemists (I judge by your literature) are not above reproach. Kindly drop my name from your advertising list and oblige."

Dr. John Dice McLaren, New York, says:

> "A circular named 'The Added Proof' is now being 'issued to physicians only.' One must consider the source of such a personal and professional affront. The 'Od Chemical Company' must have a private telephone, the number not being in the directories. In the Co-partnership and 'Od Chemical Company' carries the legend ion "refused."' When the business world is 'essional world can not hope to be favorec 'Od Chemical Company, will not answer i are ye' 'Let the galled jade wince.' We are in the right, so go ahead."

Had Dr. McLaren called at the office of Dr. J. J. Lawrence, we believe he might have obtained all the information he desired regarding the Od Chemical Company. While our correspondent is about it, we wish he would find out the exact relationship of the Dad Chemical Company to the Od Chemical Company; the Od Chemical Company to the Sultan Drug Company; the Sultan Drug Company to the Rio Chemical Company; the Rio Chemical Company to the Battle & Company; Battle & Company to the Peacock Chemical Company; the Peacock Chemical Company to the Dad Chemical Company, and all of them to that great representative monthly medical journal that was published for so many years in St. Louis and which now emanates from New York.

EXTRACTS FROM THE ADVERTISING LITERATURE.

A cursory glance through this pamphlet, "The Added Proof," "issued to physicians only," shows that there are back of its publication two purposes—one to ridicule the work of the American Medical Association in organizing the profession and its efforts through the work of the Council on Pharmacy and Chemistry, to get rid of the secret nostrum evil and the other to advertise sanmetto. Just what sanmetto is we do not know, but if we are to take the word of the Od Chemical Company it is "a scientific blending of true santal and saw palmetto in a pleasant, aromatic vehicle." We did not know that saw palmetto and santal were such valuable drugs—we do not find anything to indicate this in our text-books, but evidently these drugs have wonderful virtues if we are to judge by the claims made for them by the Od Chemical Company in their advertising literature.

Sanmetto is not only advertised as a positive cure in the diseases in which the drugs composing it used to be thought valuable, but also in la grippe and its sequelæ; but what physician with even a superficial knowledge of the physiologic and therapeutic action of drugs would prescribe either santal or saw palmetto in influence?

We are sure that the following testimonials from physicians—not from laymen, remember—will prove interesting reading. It should be understood that this is not "a patent medicine" and that the following is not an appeal to an ignorant public:

> "To whom it may concern: I have used Sanmetto * * * * also in prolapsus of bladder in women, where congestion of the ovaries and enlargement of the uterus was the cause, with very gratifying results. J. C. MAXWELL, M.D., Paw Paw, Mich."

> "Have used Sanmetto in my practice for a number of years. * * * * Would recommend its use in senile bronchial troubles. ORVILLE CURTIS, M.D., Buchanan, Mich."

> "I used Sanmetto in the case of a man 50 years of age who had suffered from la grippe, leaving him very nervous and weak, with deposits in his urine. Very great depression and almost entire impotence. One eight-ounce bottle of Sanmetto with one-sixtieth (1-60) grain of strychnia almost completely cured him. * * * * ELBERT L. FISH, M.D., West Valley, N. Y."

> "I have found Sanmetto useful in several cases of neurasthenia from overwork in intellectual lines without being associated with sexual irritations or excesses. In those case where it seemed to do the most good there was depression of energy consequent upon exhaustion of the vital forces * * * * M. W. VAN DENBURG, M.D., Mount Vernon, N. Y."

The makers also state in their advertising literature:

> "In uterine atrophy, dependent on ovarian blight (What is ovarian blight?) its action is unexcelled. In gynecological practice it is much used to promote the growth of the mammæ."

Physicians who are so emphatic in their denunciations of the advertisements of patent medicines in the lay press are respectfully invited to compare those advertisements with the foregoing, which is only a sample of the "literature" sent to physicians by the Od Chemical Company.

Publishing Medical Journals for Private Profit or for the Profession.

American Medicine comments, July 1, as follows: "There is a splendid, and perhaps unexpected, result of the plan of the American Medical Association as to nonsecrecy in the drugs used by or advertised to the profession. It has forced into the open, or will inevitably do so, the concealed journalistic supporters of the nostrum traffic. By doing this, it will as certainly expose the so-called medical journals which do not care a fig for the medical profession they have so long deceived and exploited, and which have been published solely for the financial benefit of the owners and their compliant editors. One can never cease hammering that in the professional use and control, indeed in the professional ownership of its medical literature, lies a vast deal of the progress of medical ethics, art, and science. The action of the American Medical Association cuts sharp and clear with these pseudos, and says: "On this side the sheep, on that the goats." One of our contemporaries has come out frankly and says: "We are heart and soul with the goats, and for profits in the advertising business." Another gibes at the attempts of the "reformers," "the cackle of some young and eager reformers," criticises, charges with many innuendos that some of the American Medical Association council members are in the pay of manufacturing companies, and otherwise shows plainly its sympathies, "letting 'I dare not' wait on 'I would.'" Come now, gentlemen—journalists, editors, publishers, subscribers and contributors—no befogging will avail. Choose your party! Physicians must know where you stand, and writers of medical articles must know where to send them for publication."

Nostrums in New Zealand.—"In accordance with the terms of the public health act of 1900, the governor in council has proclaimed that all patent medicines on sale here must bear, legibly printed in English on the wrapper, a statement of their contents and the exact proportions in which these are compounded. When any of the medicines contain any of the poisons included in the sale of poisons act schedule the words 'This contains poison' must be clearly printed on the label. A penalty of $25 is attached to the offense of affixing to these medicines any but the genuine formula, and it is evidently the intention of the public health department to see that the new regulations are literally and strictly carried into effect." —From report of Consul-General Dillingham, Auckland, New Zealand.

Correspondence

Catholic Teaching as to Operations for Ectopic Pregnancy.

COLUMBUS, OHIO, June 14, 1905.

To the Editor:—In THE JOURNAL, June 10, page 1868, appears a letter from W. P. Whelan, professor of medical jurisprudence, Creighton Medical College, on the subject of the doctrine of the Catholic Church as to Cesarean section for placenta prævia. In this he brings up, but does not make to my mind entirely clear, the teaching of the church as to operations for ectopic pregnancy. Professor Whelan—as I understand it—is himself a Catholic, the author of a book on this subject, and assumes to speak *ex cathedra*. His book, which I have, mentions this same subject, but in that also his language is not entirely clear.

It must, of course, be conceded that in any case of unruptured ectopic pregnancy, as it presents itself to the surgeon, it is possible that the tube may so rupture as to permit the fetus to live and develop to full term, so that it may be extracted after the period of viability, and thus both mother and child perhaps be saved. Even after rupture it is as a rule impossible to state that the mother in any particular case is necessarily doomed unless there is surgical intervention, and that the child may not possibly go on to the age of viability. That the surgeon will witness a vast number of fatal issues while waiting for a possible successful case is, of course, well known, but the possibility of a successful issue is conceded.

The questions, therefore, that I would like to have answered categorically are these:

1. Is the surgeon permitted by the Catholic Church to operate on a case of unruptured tubal pregnancy?

2. Is he permitted to operate after rupture until he is positively sure that the fetus is dead? And can he ever be thus positively sure?

3. If the Catholic surgeon is not permitted thus to operate, is not permissible for sisters in charge of hospitals to allow non-Catholic surgeons to operate in these cases?

I am especially interested in the matter because of my reading of Professor Whelan's book, and also because the subject has been a source of discussion between myself and a fellow-surgeon who is a Catholic. J. F. Baldwin.

Omaha, June 17, 1905.

To the Editor:—Before answering the queries propounded by J. F. Baldwin, M.D., I would like to inform him that there seems to be a case of mistaken identity in the introduction of his paper. He credits me with the authorship of Coppen's "Medical Jurisprudence," written by my esteemed predecessor in that chair at Creighton Medical College. The book referred to above contains in its last edition later decisions of the court decisions given on the fifth of March, 1902. In the light of these decisions, whatever haze there may have been heretofore with regard to ectopic operations has been dispelled.

This very decision is in fact an answer to the first query; before the period of viability he is not allowed; when the fetus is viable he may operate in a case of necessity, with the proviso that he looks after the life of the fetus as well as that of the mother.

With regard to the second query, he is not allowed to operate either before or after rupture unless the fetus is viable (see answer to first query). If he is positive that the fetus is dead he may remove it. Whether he can ever be thus positively sure or not is a question that pertains strictly to the physician's or surgeon's science alone, and therefore does not come within the province of medical jurisprudence.

In answer to the last question I think Dr. Baldwin will agree with me when I say that it is impossible for the sisters to take cognizance of every operation; on the supposition, however, that they do know of such operations, they are not allowed to tolerate them, because in their position, they would be morally responsible, and therefore culpable, since they would be co-operating in the crime.

The question of such operations, however, is not a specifically Catholic one. The Catholic Church does indeed condemn any action or operation which has for its object the destruction of the infant for the safety of the mother, and bases her position on the command, "Thou shalt not kill," a command that asserts God's inviolable dominion over life and death, a command that is as much applicable to the child *in utero* as to the child just born. And she is not alone in her view, but is supported to-day by the common judgment which ascribes to the physician no greater right over life than it does to any one else. W. P. Whelan.

Association News

The First Person Operated on for Gallstones.

An interesting feature at the Portland session will be the exhibition of probably the first patient operated on for gallstones, Mrs. Z. Burnsworth, McCordsville, Ind., who was operated on June 15, 1867, by Dr. John S. Bobbs. A reprint from the *Indiana Medical Journal*, July, which is to be distributed in the Scientific Exhibit at Portland, contains a history of this first operation and sketches of Dr. Bobbs, and is illustrated by portraits of Dr. Bobbs and the patient. There is also a photograph of the Medical College of Indiana, one of the institutions with which Dr. Bobbs was connected. Through the efforts of this college the patient is to be exhibited at Portland. The reprint bears the following dedication:

> "This reprint is dedicated to the American Medical Association in session at Portland, Oregon, June 11-14, 1905, in memory of Dr. John S. Bobbs of Indianapolis, the founder of the surgery of the gall bladder, by the Medical College of Indiana, the *Indiana Medical Journal*, and the Indianapolis and State Medical Societies which Dr. Bobbs assisted in organizing, and on behalf of the thousands of patients whose lives have been made happy and prolonged by this beneficent operation."

Dr. A. W. Brayton, editor of the *Indiana Medical Journal*, and Drs. W. N. Wishard and L. H. Dunning, who will present the case before the Section on Surgery and Anatomy, deserve much credit for this interesting historical presentation.

The General Reception.

The general reception to the members of the American Medical Association, to be given by the Portland City and County Medical Society and the state and district societies, will be held at The Oaks, and not at the Lewis and Clark Fair grounds. It will be a social function, at which the ladies as well as the gentlemen will be present, and it promises to be something to be long remembered by all who attend.

NEW MEMBERS.

List of new members of the American Medical Association during the month of June, 1905:

ALABAMA.

Gaines, T., Mobile.
Farish, L. B., Atmore.
Hitchcock, M. S., Brookwood.
Moore, D. S., Clarence.
Nabers, F. E., Birmingham.
Peters, U. J. W., Birmingham.
Shamblin, A. C., Gaylesville.

ARIZONA.

Hetherington, A. J., Phoenix.
Shattuck, H. P., Tucson.
Tarbell, Brent C., Naco.

ARKANSAS.

Simmons, W. H., Fordyce.

CALIFORNIA.

Blythe, T. M., Redlands.
Berry, A. J., Los Angeles.
Case, C. L., Oakland.
Cornwall, F., San Francisco.
Deering, W. E., Hollywood.
Hagadorn, J. L., Los Angeles.
Hewlett, A. W., San Francisco.
Hasson, D. W., Buena Park.
Ide, Chas. E., Redlands.
McLean, A. D., San Francisco.
Mattison, S. J., Pasadena.
Orella, F. R., San Francisco.
Shelton, A. H., Long Beach.
Smith, R. J., Milpitas.
Thompson, W., San Bernardino.
Thompson, J. E., San Francisco.

COLORADO.

Cooper, C. E., Denver.
Sheldon, J. E., Telluride.

CONNECTICUT.

Gill, M. H., Hartford.
Rising, H. B., So. *Glastonbury*.
Pierson, John C., Hartford.
Young, C. B., Middletown.

DIST. OF COLUMBIA.

Arnold, J. S., Washington.
Balloch, E. A., Washington.
De Vries, J. C., Washington.
French, Wm. B., Washington.
Marbury, C. C., Washington.

FLORIDA.

Barnes, B. F., Chattahoochee.
Bond, B. J., Tallahassee.
Diggett, E. W., Daytona.
Light, S. D. W., Key West.
Warren, E. W., Crescent City.

GEORGIA.

Gaines, L. M., Atlanta.
Wright, H. S., Atlanta.
Dexter, C. A., Columbus.
Kennedy, W. D., Metter.

IDAHO.

Aulguire, J. A., Pocatello.
Alexander, M. E., Mullan.
Bowers, L. C., Boise.
Boyd, T. O., Twin Falls.
Fairly, J. M., Oro Fino.
Hyde, Geo. Ed, Rexbury.
Lewis, J. B., *Boise*.
Neilson, A. F. O., Oakley.

ILLINOIS.

Foulon, J. J., French Village.
Foulon, Z. S., French Village.
Collins, M. V., Barry.
Cargill, C. W., Mason City.
Duncan, F., Chicago.
Ferguson, R. R., Chicago.
Hutchinson, E. B., Chicago.
King, O. A., Chicago.
Kaczorowski, J. P., Chicago.
Kerr, E. D., Westervelt.
Leahy, J. E., Chicago.
Livermore, W. H., Plattville.
Marquardt, E. W., Bensenville.
Manuel, W. S., Chicago.

Merki, E. J., Chicago.
Meserve, A. G., Robinson.
Napieralski, E. F., Chicago.
Potts, F. T., Toluca.
Pearce, Beatrice, Waukegan.
Rutledge, G. F., Chicago.
Rutledge, J. A., Elgin.
Ritter, John, Chicago.
Ruehl, M. C., Chicago.
Stol, S., Chicago.
Schurmeier, C., Chicago.
Studer, E., Peoria.
Stafford, T. J., Stockton.
Vanderhoof, D. A., Byron.
Way, H. J., Chicago.
Weisskopf, M. A., Chicago.

INDIANA.

Dryer, D. W., La Grange.
Ferguson, C. E., Indianapolis.
McEvoy, Jas. B., Ft. Wayne.
Sigmond, H. W., Crawfordsville.
Whitesides, Franklin.

INDIAN TERRITORY.

Callahan, Jas. O., Muskogee.

IOWA.

Agnew, F. F., Independence.
Chassell, J. L., Iowa Falls.
Downs, J. A., Glidden.
Dakin, C. E., Mason City.
Holmes, W. W., Keokuk.
Jennings, F. B., Drakeville.
Nye, H. W., Lovilia.
Rogers, E. B., Waterloo.
Sage, F. C., Waterloo.
Shively, —, Sheldah.
Sugg, H. R., Clinton.
Sheldon, B. L., Cedar Rapids.
Tinley, M. A., Council Bluffs.
Wade, Chas. M., Sioux City.

KANSAS.

Alexander, J. B., McPherson.
Cole, C. W., Norton.
Davis, O. P., Topkea.
Scott, T. W., Stafford.
Schoor, W. F., Hutchinson.

KENTUCKY.

Brook, G. S., Bush.
Bowman, Wm., Tolesboro.
Brown, F. M., Hopkinsville.
Coleman, J. S., Frankfort.
Hill, A. F., Vanceburg.

LOUISIANA.

Lafleur, A., Opelousas.
O'Connor, A. T., Neame.
Seebold, H. B., New Orleans.
Smith, M. F., Shreveport.

MAINE.

Cragin, D. B., Waterville.
Gehring, E. W., Portland.

MARYLAND.

Atkinson, A. D., Baltimore.
Bromwell, J. E., Mt. Airy.
Brotemarkle, C., Vienna.
Dyson, V. H., Laytonsville.
Eversfield, W. O., College Park.
Franklin, C. M., Towson.
Hendrix, J. O., Frederick.
Hammon, L. V., Baltimore.
Likes, S. H., Baltimore.
Lang, J. D., Baltimore.
Neale, L. E., Baltimore.
Whitridge, Wm., Baltimore.
Wagner, Wm. H., Woodsboro.

MASSACHUSETTS.

Aldrich, A. C., Somerville.
Amadon, A. F., Boston.
Birmingham, R. M., Lawrence.
Bennett, W. H., Hyde Park.
Butler, Wm. H., Fall River.
Briggs, F. M., Boston.
Broughton, H. W., Boston.
Bryson, A. A., Fall River.
Comey, P. P., Worcester.
Campbell, B. F., E. Boston.
Dame, F. R., Medford.
Dean, R. D., Taunton.
Draper, A. D., Boston.
Farr, E. L., Roxbury.
Fiske, E. L., Fitchburg.
Fisher, I. J., W. Newton.
Howe, W. C., Boston.
Howard, H. B., Boston.
Hurd, A. G., Millbury.
Hill, G. J., Beverly.
Hamilton, R. D., Newburyport.
Holmes, May S., Worcester.
Homans, John, Boston.
Hinkiss, George, Boston.
Jelly, A. C., Boston.
Jones, D. F., Boston.
Knight, Chas. L., Boston.
Keleher, Wm. H., Woburn.
Lindsey, J. H., Fall River.
Lambert, J. H., Lowell.
Lord, F. T., Boston.
Lovell, D. B., Worcester.
McLeod, J. S., Boston.
Morgan, L. E., Brookline.
Morse, E. G., Roxbury.
MacArthur, Geo. E., Ipswich.
Ott, Geo. J., Clinton.
Osgood, George, Boston.
O'Neill, R. F., Boston.
O'Sullivan, J. J., Lawrence.
Palfrey, F. W., Boston.
Parker, R. W., Lowell.
Rowen, H. S., Boston.
Sawyer, W. F., Fitchburg.
Smith, E. S., Westfield.
Stedman, J. C., Boston.
Sughrue, D. F., Roxbury.
Starbuck, J. C., North Easton.
Tolman, Julia, Arlington, Mass.
Townsend, David, Brookline.
Torbert, Jas. R., Boston.
Verhoeff, F. H., Boston, Mass.
Wadsworth, O. F., Boston.
Woodward, L. F., Worcester.
Walker, Wm., Boston.

MICHIGAN.

Allen, R. C., St. Joseph.
Baird, R. H., Howell.
Clarke, G. M., Detroit.
Drummond, C. A., Painesdale.
Ditmars, W. R., North Adams.
Kerry, F. M., Benton Harbor.
Lenhard, C. A., Detroit.
Olson, R. G., Muskegon Heights.
Niles, H. R., Flint.
Rutledge, Frances E., Newberry.
Sicott, R., Sparta.
Schwendner, Hattie A., St. Joseph.
Thomas, E. P., Scottsville.
Thomas, B., Jackson, Mich.
Witt, Edw. J., St. Joseph.

MINNESOTA.

Christie, G. R., Long Prairie.
Dutton, C. E., Minneapolis.
Foster, N. W., St. Paul.
Hulburd, H. L., Morris.
Lapierre, C. A., Minneapolis
Oredson, O. A., Duluth, Minn.
Rishmiller, J. H., Minneapolis.
Roberts, C. B., Minneapolis.
Spratt, C. N., Minneapolis.
Smith, D. D., Mankato.
Theissen, Wm. N., Henderson.

MISSISSIPPI.

Buck, H. C., Friars Point.
Jackson, J. S., Belzani.
Marsalis, W. I., Centerville.
Smith, W. D., Franklin.
Washington, J. J., Pass Christian.

MISSOURI.

Goodson, E. N., Hopkins
Laurazana, L., Kansas City.
Shotwell, C. B., Richmond.

MONTANA.

Blair, J. F., Bozeman.
Grigg, J. A., Butte.
Riddell, W. C., Helena.
Solvail, N., Helena.
Ward, A. L., Boulder.

NEBRASKA.

Loughridge, W. K., Milford.
Zerzan, G. F., Milligan.

NEVADA.

Morrison, S. K., Reno.

NEW HAMPSHIRE.

Day, H. C., Exeter.
Faulkner, H. K., Kene.
Stillings, F. A., Concord, N. H.

NEW JERSEY.

Dubell, J. E., Columbus.
Gorton, E., Summit.
Fewsmith, J. L., Newark.
Fewsmith, J., Newark.
Martland, W. H., Newark.
Robinson, B. A., Newark.

NEW MEXICO.

Leavel, R. V., Silver City.
McNeill, R. I., Mescalero.

NEW YORK.

Doty, A. H., Quarantine.
Gillette, A. A., Rome.
Gosney C. W., New York.
Dugan, John, Albion.
Hallock, L. R., New York.
Jarcho, J., New York.
Lesem, Wm. W., New York.
Miglionico, G., New York.
Pearce, R. M., Albany.
Pierce, L. R., Newburgh.
Thompson, E. C., Newburgh.
Wakeman, B. R., Hornellsville.
Williams, H. T., Rochester.

NORTH CAROLINA.

Boyles, J. H., Greensboro.
Burt, S. P., Louisburg.
Candler, Chas. Z., Dillsboro.
Davis, A. P., Winston-Salem.
Graham, G. A., Raeford.
Harrill, L. B., Caroleen.
Hicks, I. F., Dunn.
Liggett, N., Hobgood.
Lee, L. V., Lattimore.
Martin, S. L., Leaksville.
Paddison, J. R., Oak Ridge.
Robinson, Frank, Lowell.
Royster, S. S., Mooresboro.
Steele, Wm. H., Rockingham.
Winchester, F. M., Charlotte.
Young, R. S., Concord.

OHIO.

Bliss, C. B., Sandusky.
Brown, H J., Ironton.
Cameron, E., Lorain.
Cammins, G. M., Hamilton.
Dreyfoos, Max, Cincinnati.
Klaus, M. H., Cleveland.
Kurtz, C. D., New Philadelphia.
Lowry, A. C., Ironton.
Linn, F. W., Cleveland.
Lukens, Chas., Toledo.
Nash, A. C., Glenville.
Oliver, J. A., Steubenville.
Podlewski, S. J., Steubenville.
Robb, I. H., Newark.
Spence, A. D., So. Lebanon.
Tims, W. A., Cleveland.
Weeks, E. A., Akron.
Welch, A. J., Mt. Sterling.

OREGON.

Buck, Louis, Portland.
Chance, A. W., Portland.
Fenton, H. C., Portland.
Fessler, Theo., Portland.
Gray, E. L., Portland.
Gray, K. P., Portland.
Gillespie, R. L., Portland.
Hamilton, L. H., Portland.
Hamilton, W. B., Portland.
Hill, C. E., Portland.
Hill, S. S., Portland.
Little, E. G., Portland.
Logan, R. W., Moro.
Loughridge, S., Grant's Pass.
Mount, H. S., Oregon City.
Parker, E. H., Portland.
Pohl, Emil, Portland.
Prinzing, J., Ontario.
Ricen, Leo, Portland.
Slocum, S. C., Portland.
Walker, R. C., Portland.
Wood, Wm. L., Portland.
Whiteside, Sarah, Portland.
Wetherbee, J. R., Portland.

PENNSYLVANIA.

Bacon, John, Philadelphia.
Berens, Conrad, Philadelphia.
Baker, Hugh, Leisenring.
Carey, R. B., Glen Luch.
Care, J. R., Norristown.
Doane, L. L., Butler.
Dunn, J. S., Pittsburg.
Davis, A. M., Philadelphia.
Ferguson, Albert, Philadelphia.
Findley, J. D., Altoona.
Fackler, L. H., York.
Frantz, G. B., Coal Center.
Furnee, C. H., Marshalsea.
Gundy, C. A., Lewisburg.
Hellman, R. P., Emporium.
Henderson, J. L., Osceola Mills.
Kress, F. C., Lilly.
King, I. K., Pittsburg.
Lindley, D. C., New Castle.
Logan, Orlando, Girard.
Lefever, E. K., Boiling Springs.
McGeagh, A. C., Pittsburg.
Missett, J. V., Philadelphia.
Maclay, D., Chambersburg.
McNeely, J. F., Munhall.
McGeary, W. J., Sharpsburg.
O'Neill, M. P., Philadelphia.
Price, A. D., Pittsburg.
Quiney, J. J., Easton.
Robinson, E. T., Philadelphia.
Roach, T. E., Renovo.
Rowles, J. F., Mahaffey.
Redeker, F. W., Bloomsburg.
Rice, N. S., Durham, Pa.
Runkle, S. C., Philadelphia.
Stanton, W. B., Philadelphia.
Stahlman, F. C., Charleroi.
Smith, R. S., Saegertown.
Schultz, J. Wm., Tremont.
Saylor, E. S., Philadelphia.
Shoemaker, Harlan, Philadelphia.
Trimbath, W. P., Everett.
Trout, N. C., Fairfield.
Taylor, H. F., Ridley Park.
Venus, C. H., Windsor.
Van Horne, T. C., Pittsburg.
Watson, S. S., Moosic.
Waters, D. C., Arnot.
Wickham, J. J., Rochester.
Zieg, John, Pittsburg.
Zulick, Thos. C., Easton.

PHILIPPINE ISLANDS.

Heiser, V. G., Manila.

RHODE ISLAND.

Blumer, G. A., Providence.
Fisher, P. E., Providence.
Peters, J. M., Providence.

SOUTH CAROLINA.

Bigger, I. A., Clover.
Browning, A. W., Elloree.
Cornell, W. P., Charleston.
Mitchell, J. C., Charleston.
Rutledge, Edward, Charleston.
Egleston, W., Hartsville.
Earle, J. B., Greenville.
Fike, A. R., Spartanburg.
Lindsay, S., Winnsboro.
Wideman, S. A., Woodruff.

SOUTH DAKOTA.

Ball, W. R., Mitchell.
Klaveness, E., Brookings.
Menser, E., Bridgewater.

TENNESSEE.

Ham, E. C., Memphis.
Simpson, Jas. A., Glen Mary.
Waters, A. C., Bodenham.

TEXAS.

Baird, Jas. C., Big Springs.
Brown, W. L., El Paso.
Balde-Sarelli, P., San Antonio.
Jameson, W. G., Palestine.
Lay, J. E., Hallettsville.
White, Jas. C., Paris.

UTAH.

Osgood, C. F., Morgan.
Robison, J. C., Fillmore.

VERMONT.

Johnson, R. T., Concord.
Nay, W. S., Underhill.
Perkins, H. B., Groton.
Phelps, F. C., Vergenner, Vt.

VIRGINIA.

Hirschler, D. L., Norfolk.
Kellam, C. D., Norfolk.
Jones, W. R., Richmond.
Ayler, J. W., Newport News.
Caldwell, B. R., New Castle.

WASHINGTON.

Bentley, Frederick, Seattle.
Bumgarner, C. S., Thornton.
Booth, J. R., Seattle.
Bailey, J. W., Seattle.
Bridgford, W. L., Olympia.
Chapman, W., Spokane.
Carpenter, D. N., Puget Sound.
Curran, T. B., Tacoma.
Cook, A. B., Colville.
Coleman, J. T., Chehalis.
Dumon, J. H., Centralia.
Dow, Geo. H., Chehalis, Wash.
Gove, R. A., Tacoma.
Heg, E. E., Seattle.
Hicks, G. S., Tacoma.
Hill, F. R., Tacoma.
Kinnear, C. H., Tacoma.
Knickern, E. L., Centralia.
Libby, G. A., Tacoma.
Libby, G. W., Spokane.
Loughary, J. B., Seattle.
McDowell, G. K., Spokane.
McKone, Jas., Tacoma.
McCulloch, Geo. B., Seattle.
Miles, W. T., Seattle.
McGreery, W. B., Tacoma.
O'Rourke, Wm. P., Georgetown.
Phillips, F. A., Seattle.
Perkins, L. M., Tacoma.
Perry, R. W., Seattle.
Primmer, T., Centralia.
Pearson, M. L., Aberdeen.
Pomeroy, F. A., Cheney.
Rose, Frank, Spokane.
Russell, C. H., Pullman.
Snow, A. G., Seattle.
Stevens, J. E., Seattle.
Stewart, S. J., Seattle.
Stewart, A. C., Tacoma.
Trommald, E. A., Tacoma.
Turner, W. K., Seattle.
Thomson, R. L., Spokane.
Van Winkle, J. O., Oakville.
Weichbrod, I. A., Tacoma.
Walston, John S., Montesano.
Wagner, G. C., Tacoma.

WEST VIRGINIA.

Brounfield, G. H., Scottdale.

WISCONSIN.

Ackley, S. B., Oshkosh.
Andrews, E. P., Portage.
Bowman, F. F., Madison.
Blachly, Hayward.
Foster, A. M., Kaukanna.
Fleek, J. L., Brodhead.
Felter, E., Plymouth.
Folsom, Wm. H., Markesan.
Hoermann, R. B., Watertown.
Ketterer, E. A., Montfort.
Lewis, S. M., Kenosha.
Monroe, W. H., Merrill.
Mann, H. E., Marinette.
McDougall, G. T., Fond-du-lac.
Noyes, G. B., Oshkosh.
Swarthout, E. C., La Crosse.
Smith, S. M. B., Crandon.

WYOMING.

Hawk, J. W., Green River.

Marriages

W. W. Conger, M.D., to Miss Helen Brigham, both of Toledo, June 28.

J. P. Gardiner, M. D., to Miss Antionette Sprague, both of Toledo, June 28.

Charles W. Crane, M.D., to Miss Annie Reab, both of Augusta, Ga., June 28.

William P. Harbin, M.D., to Miss Edith Lester, both of Rome, Ga., June 28.

George H. Willis, M. D., to Miss Ethel B. Fahr, both of Winslow, Ill., June 14.

Samuel C. Gurney, M.D., to Miss Marie H. Poillon, both of Detroit, Mich., June 28.

Logan M. Dickson, M.D., to Miss Leila F. Sherman, both of Revere, Mo., June 28.

Francis J. Kirby, M.D., Baltimore, to Mrs. Teresa J. Werts, of Washington, June 27.

James S. Billingslea, M.D., to Miss Katherine E. Bell, both of Baltimore, June 26.

Ellis Duncan, M.D., to Mrs. Anna Kinnaird Strother, both of Louisville, Ky., June 29.

Charles McCaw Wood, M.D., to Miss Mary Stroud Swan, both of Maroa, Ill., June 28.

Richard W. Follis, M.D., Baltimore, to Miss Louise Riggs, at Washington, June 27.

Orville M. Clay, M.D., Denver, Colo., to Miss Elizabeth Wise of Boulder, Colo., June 28.

William Huff Baldwin, M.D., to Miss Theodoci Rogers, both of Memphis, Tenn., June 28.

Glen Dean Gallup, M.D., River Falls, Wis., to Miss Frances Crippen of Roberts, Wis., June 21.

Gordon Chason, M.D., Bainbridge, Ga., to Miss Mary Estell Kornegay of Newberne, N. C., June 27.

Frank Banghart Walker, M.D., to Miss Kate Huntington Jacobs, both of Detroit, Mich., June 26.

H. Walton Wood, M.D., Taunton, Miss., to Miss Grace Elizabeth White, at Baltimore, June 28.

Arlington Cecil Jones, M.D., Covington, Va., to Miss Anne Shanahan of Tuckahoe, W. Va., June 28.

John Francis Stein, M.D., Oshkosh, Wis., to Miss Lilian Julia Groth of Milwaukee, Wis., June 14.

Charles H. Barksdale, M.D., to Miss Pattie Elizabeth Edmunds, both of Petersburg, Va., June 28.

Arthur D. Hirschfelder, M.D., San Francisco, to Miss Mary Strous, at Washington, D. C., June 26.

Lester William Bellows, M.D., Waterloo, N. Y., to Miss Josephine Duff of Seneca Falls, N. Y., June 21.

Albert Earle Boozer, M.D., Columbus, S. C., to Miss Grace Bland Walter, at Winchester, Va., June 28.

Charles James Wallace, M.D., Chippewa Falls, Wis., to Miss Renna Lee Keith of Minneapolis, Minn., June 7.

Edward Hall Richardson, M.D., Farmville, Va., to Miss Emily Gould, at Mt. Washington, Baltimore County, Md., June 27.

Sarah Edith Ives, M.D., Middletown, Conn., and Rev. James J. Cogan, rector of St. Luke's Church, Fall River, Mass., June 28.

Deaths

Benjamin J. Day, M.D. Pennsylvania Medical College, Philadelphia, 1856, said to have been the oldest practitioner in southern Indiana; for many years professor of surgical pathology in Evansville Medical College, died at the Evansville Sanitarium June 29, after an illness of a year, from senile debility, aged 83. At a special meeting of the Vanderburg County Medical Society June 30 resolutions of sympathy and condolence were adopted.

Walter Bryan, M.D. New York University, New York City, 1900, professor of physiology and toxicology and assistant professor of materia medica and pharmacology in the Brooklyn College of Pharmacy, was found dead in his apartments in New York City June 26, from heart disease, aged 38.

Stephen G. Hubbard, M.D. Dartmouth Medical School, Hanover, N. H., 1848, formerly a member of the faculty of Yale Medical School, New Haven, and secretary of the American Medical Association in 1859-1860, died at his home in New Haven June 30, from senile debility, aged 88.

Ubert Lee Holford, M.D. Rush Medical College, Chicago, 1892, for seven years a member of the village board of Cassville, Wis., and for the last two years its president, died at his home in Cassville from tuberculosis June 13, after an illness of a year, aged 33.

Hiram R. Fish, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1870, postmaster at Gravois Mills, Mo., for many years, died at his home in that place June 19, after an invalidism of several years, aged 71.

Robert S. Briscoe, M.D. St. Louis Medical College, 1857, a pioneer of Colorado City, Colo.; for many years city physician of El Paso County, died at St. Francis' Hospital, Colorado Springs, June 25, after a short illness, aged 71.

Joseph A. McKenzie, M.D. Kentucky School of Medicine, Louisville, 1879, died at his home in Eldorado, Kan., June 25, five days after an accident in which he was thrown out of an automobile and seriously injured, aged 65.

William Leavitt Jackson, M.D. Harvard University Medical School, Boston, Mass., 1896, of Roxbury, Boston, died at Bad Nauheim, Germany, June 22, after an illness of ten years, aged 52.

Franklin B. Nice, M.D. Jefferson Medical College, Philadelphia, 1851, died at his home in Hamburg, Pa., June 29, from cerebral hemorrhage, after an illness of four months, aged 75.

William Comerford, M.D. Rush Medical College, Chicago, 1890, died at his father's house in Appleton, Wis., June 27, after ten years of ill health, from hemorrhage of the stomach.

John F. Gilluly, M.D. University of Georgetown Medical Department, Washington, D. C., 1903, died at his home in Central Falls, R. I., June 21, after a long illness, aged 26.

Charles H. Hitchcock, M.D. Cincinnati, 1857, for many years a prominent practitioner of Aurora, Ill., died at his home in that city June 28, after an extended illness, aged 74.

Isaac J. Hopper, M.D. Cincinnati, Ohio, 1885, died from tuberculosis at his home in Blue River Township, Crawford County, Ind., June 25, after a long illness, aged 45.

Samuel P. Donnahoo, M.D. University of Louisville Medical Department, 1892, died at his home in Jefferson City, Tenn., June 20, after an illness of four weeks, aged 33.

Franklin B. Mainor, M.D. Vanderbilt University Medical Department, Nashvile, 1880, was shot and killed in a street duel with E. E. Griffin at Itasca, Texas, June 26.

Roger Q. Drake, M.D. Jefferson Medical College, Philadelphia, 1868, died at his home in Mount Sterling, Ky., June 29, after an illness of more than a year, aged 59.

J. H. Alexander, M.D. University of Louisville Medical Department, 1872, of Elizabethton, Tenn., died at Johns Hopkins Hospital, Baltimore, June 24.

William McBryar, M.D. New York University, New York City, 1853, died suddenly at his home in Apollo, Pa., June 25, from heart disease, aged 84.

Wesley Roberts Miller, M.D. Columbus (Ohio) Medical College, 1876, died at his home in Detroit, Mich., June 21, after a long invalidism, aged 75.

Eugene B. Perry, M.D. Rush Medical College, Chicago, 1880, died at his home in Melvin, Ill., June 22, from uremia, after a short illness, aged 61.

Willis A. Hammond, M.D. Columbus (Ohio) Medical College, 1881, died at his home in Madison, N. Y., June 21, after a long illness, aged 52.

James M. Kelly, M.D. Cincinnati College of Medicine and Surgery, 1849, died at his home in Steubenville, Ohio, June 23, aged 79.

Maurice M. Hampton, M.D. Ohio, 1876, died at his home in Sanford, Fla., June 16, after an illness of several weeks.

James F. Gary, M.D. St. Louis, 1878, died at his home in Delhi, Ill., June 19, after a lingering illness, aged 55.

Selina H. Miller, M.D. Missouri, 1886, died at her home in Lincoln, Ill., June 22, aged 73.

Book Notices

Manual of Serum Diagnosis. By Dr. O Rostoski, University of Wurzburg. Authorized Translation by Charles Bolduan. First Edition. First Thousand. Cloth. Pp. 86. New York: John Wiley & Sons. London: Chapman and Hall Ltd. 1904.

Rostoski uses the term "serum diagnosis" in its literal sense, including not only the phenomenon of agglutination for the identification of bacteria and for the recognition of disease, but also the action of the bacterial precipitins of Kraus, and the use of serum-precipitins and hemolysins as forensic blood tests. In harmony with the evident intention, however, of producing a manual which satisfies a need of practitioners, the author treats chiefly of the agglutination reaction as a means of recognizing the more common infections. Eleven pages of "general considerations" are devoted to a brief and clear description of the different kinds of antibodies which may be formed. The value and the application of the agglutination test in typhoid and paratyphoid occupy about one-half the book. Such subjects as the date of appearance of the reaction, the reaction in conditions other than typhoid, failure of the reaction, group agglutination, and tests as performed with killed micro-organisms are discussed with a clearness which is gratifying. The ease with which the practitioner in his own office may perform the agglutination test with formalin cultures or with some such preparation as Ficker's diagnostic, is illustrated. This feature is introduced by the translator who also inserts paragraphs on paratyphoid and paradysentery. Chapter III discusses agglutination in tuberculosis and Chapter IV "Agglutination in Other Diseases," as plague, cholera, dysentery, glanders and infections with the pyogenic cocci. Chapters V and VI treat of serum reactions which have a forensic value. An appendix includes several drawings from Wilson showing the microscopic appearances of a glutinated bacteria and illustrating some sources of error.

An Atlas of Dermatology, Showing the Appearances, Clinical and microscopical, Normal and Abnormal, of Conditions of the Skin. By M. Dockrell, M.A., M.D. Cloth. Pp. 264. Price, $17.00 net. New York: Longman's Green & Co. 1905.

This atlas is a new departure in that each case which is illustrated has below it a micro[illegible] ing the histologic findings. This plan of [illegible] of unqualified recommendation. We have seen no atlas which is so instructive as this because of this feature, and it is hard to imagine a method of illustrating cutaneous diseases which is more interesting or more instructive. The atlas contains forty plates, most of them illustrating the more familiar dermatoses; there are in addition several plates of rare conditions. The numerous illustrations of the commoner dermatoses make the atlas of great value to the general practitioner. It should also appeal strongly to the expert on account of the combination of histologic and clinical pictures and the excellent judgment used in the selection of cases for illustration. The text is confined, as it should be, to a description of the microscopic section and of the lesion from which it is taken. The work is an excellent example of book making. It is printed on highly glazed, thick paper, which gives the best effect to the illustrations. The coloring of the illustrations is fair; it is not as good as that of a few of the most recent French and German atlases, but it does not fail in this particularly; the coloring is not confined to a pink background to represent normal skin with casual dabs of color in spots to represent lesions. It is sufficiently well done to represent lesions with accuracy. On the whole, the work can be highly commended. It is to be hoped that it will have a large sale, so that its success may induce the production of other atlases on the same plan.

A Treatise on the Diagnosis of Diseases of Women. For Students and [illegible]ner Findley, B.S., M.D., Assistant Professor [illegible]cology, Rush Medical College in affiliation [illegible] Chicago. 588 pages, 281 illustrations, [illegible] Cloth. Price, $4.75 net. Lea Brothers & Co.. Philadelphia. 1905.

The present—second—edition contains a number of new paragraphs and several new chapters. A chapter on the relation of the pathology of the blood to gynecologic diagnosis and another on the bacteriology of the female genital tract give clear ideas of these important subjects. A number of new plates and engravings have also been added, and some of the cuts of less useful instruments omitted. The paragraphs on "Cystic Disease of the Ovary" have been rewritten, the theory of the etiology of this disease introduced and the recent literature carefully reviewed. Valuable additions to the chapter on the urinary organs have been made. Exfoliative endometritis and abscess of the uterus, both omitted in the first edition, have been taken up here. This is an extremely practical book, and a very valuable one for the student and practitioner.

A Manual of Acute Poisoning, Giving Classification, Varieties, and Individual Substances usually met with in Emergency Poisoning, etc. Together with methods for use in First Aid to the Injured, by J. W. Wainwright, M.D. Cloth. Pp. 96. Price, $0.75, net. New York: E. R. Pelton, 1905.

This book contains a brief outline of the symptoms, tests and treatment of acute poisoning from various substances. It makes a convenient ready-reference book for these emergency cases.

Miscellany

THE ETHICS OF CONSULTATION.

B. D. Bosworth, M.D.

KNOXVILLE, TENN.

Consultation is the rose in our flower-garden; it is the milk in our cocoanut; it is the cream on our milk. To be a worthy and popular consultant is the loftiest of all our ambitions, the most exalted of all our attainments and the richest in its results and rewards. To be an able consultant is to be "greater than a king." And yet it is the tendency of this age rather to discourage consultation; and many are the so-called independents, who, attaching some fledgling just from the nest as anesthetist and assistant, and equipping themselves with a few thousand yards of "red tape," deem themselves amply sufficient for all the mighty problems of life and death.

Many are the egotists who have become so thoroughly imbued with a sense of their own importance and so profoundly in love with their own opinions that the bare suggestion of a consultant is an insult. Many are the small-souled, jealous, envious, narrow-minded men among us who advise against consultations solely because their hearts contract and shrivel at the thought of another man receiving the justly increased honorarium. Others there are (and alas! their name is legion) who grope always in "the darkness of ignorance," and who everlastingly oppose consultation because they fear or, perhaps, can not bear to have the light turned on.

These and many other pernicious influences are at work to destroy this proudest of our tenets and ordinances. So that, first of all, I wish to enter a protest against them and a plea on behalf of both patient and physician for a wider and more generous view in reference to a matter of such vital import.

What poor, sick, suffering mortal ever existed but was refreshed and buoyed up and filled with renewed hope and good cheer by the opportune introduction of the new mind, brought to bear on his case, if only to assure him all was well? What honest and conscientious physician or surgeon can deny that some of the proudest moments of his career have come to him when, in the confidence of the consulting room, some able and distinguished confrère assures him that his work is approved and his duty well performed? Or where is the faithful practitioner, who, when long and continued effort on a given case has been unattended with success, will not gladly and with a heart free from guile take off his hat to the consultant, who puts him on the right track and places within his hands the material from which a cure is wrought? Did there ever live the obstetrician, worn by prolonged and assiduous attendance on protracted labor—or did there ever breathe the agonized parturient, fagged and forlorn from the pangs and suspense of inertia, but were both filled with new hope and new energy when the strong, fresh, wholesome presence of the honored consultant enters the room to give without stint from his cooler head and to lend without limit his steadier hand and nerve?

The mind must indeed be narrow and the soul infinitesimal that can fail in the full appreciation of such splendid help so modestly and so generously given. Aside from the benefits that accrue to the patient and to his attending physician out of consultation, there remains this other potent reason why it should be encouraged in every honorable way: The majority of us have swooped down on this community, red-handed from the dissecting room, and flung out to these soft southern breezes a banner (in the shape of the sign Dr. So and So), on whose magic folds is written the hidden inscription: "We own the earth;" unmindful of the fact that we are poachers on the preserves of other and perhaps better men; never for one instant admitting to ourselves that our patients and our incomes can only be derived from patrons we must beguile from the clientele of men grown gray in their service as family physicians. It becomes us, therefore, to treat these gentlemen kindly and to make them whatever reparation we can by calling them in consultation as often as possible and gladly helping them to secure the larger fee in return for their aid in saving the lives of men, women and children, whom they know so well; not waiting either until the patient be moribund, but let them share our triumphs as well as our responsibilities.

The question, "with whom shall we consult?" is to-day perhaps a more complex one than it has ever been in all the history of ethics, because the American Medical Association has in recent session thrown down the bars to those who have been homeopaths, eclectics, etc. There are reputable schools in which they should have been educated and can be still, and this action is as yet too young to be judged by its fruits; but I am greatly troubled over the prospect, for I love that clause in the time-honored Code (now the Principles of Ethics), which warns us against association with any man whose practice is based on an exclusive dogma; and I believe that much of the dignity of the regular profession has had its origin in its contempt for quackery.

I believe in exclusive consultation—an exclusiveness that will shut out the moral leper, the notably unworthy, the palpable imposter and that will forever bar the criminal abortionist. And I thank God that there is no law to prevent the exercise of individual judgment and discretion as to whether or not we shall meet Dr. Scoundrel in these sacred relations. Be an upright regular yourself, first, last and always, and see to it that you associate only with upright regulars.

But let us leave these painful thoughts and study—what I hope will appear to be—an ethical consultation between Dr. A, the attending or family physician, and Dr. B, the consultant. Dr. A has become dissatisfied with the condition of Mr. Smith and has asked for a consultation (and he feels all the better for having taken the initiative in the matter, rather than having waited until Mr. Smith or the family have awakened him with the bombshell that they would like a consensus of opinion).

In the choice of the consultants Mr. Smith and family should be allowed an unbiased selection, and when Dr. B has been agreed on, it is Dr. A's duty to call him up and ask for an appointment at as early a moment as the case requires and is convenient for him. The hour being set, the next point is punctuality; it is poor taste and bad form for either to keep the other waiting, and when this does occur unavoidably the amend honorable is always in order.

From the moment Dr. B enters the house he becomes Dr. A's welcome guest and is entitled to every possible courtesy and civility. Dr. A meets him at the door when practicable and extending to him the welcoming hand, leads him cordially into a private room and unfolds to him the nature of the malady and a full history of the case, emphasizing whatever features have seemed at all obscure.

Following this preliminary conference they repair at once to the sick room, where Dr. A quietly introduces any strangers who may be present, the nurse and the patient, and when, without any show of hurry, greetings have been exchanged and pleasantries passed, Dr. B is offered a comfortable chair near the fire or window and Dr. A takes his place at the bedside and carefully observes the patient's pulse and tongue and temperature, and further seeks for any possible change or hitherto unnoted circumstance. Having satisfied himself thoroughly, he passes the thermometer over to Dr. B and courteously invites him to proceed with his examination of the patient.

In conducting this examination Dr. B must in turn prove himself a gentleman (and there is no better opportunity for acting the dog than is presented right here, if he happens to be built that way). He must keep in mind that the attending physician is perhaps being weighed in the balance, and he must have great care to take no unfair advantage. I have known shrewd, villainous doctors to dash into this examination with an eye single to their own brilliancy and advancement, and to carry themselves throughout with a display and bombast which soon makes the attending physician feel and look like the far-famed "thirty cents." Ethics is opposed to everything like this. There must be no play to the grandstand. There must be no assumption of superiority, no display of red tape, no indulgence in extraordinary attentions or assiduities. There must be strict avoidance of anything which might humiliate your brother.

To illustrate this point: There were several of us, some years ago, engaged in searching for pus in a suspected pleural sac, and, after several days' fruitless endeavor and sundry plunges of the aspirating needles, it was determined to seek aid from "the noblest Roman of them all" (you will recognize him from a recital of the incident), and his first plunge filled the syringe with pus. He quickly covered it up so that neither patient nor bystander knew of his success, and when we next saw that syringe 'twas behind the closed doors of the consultation room. Here is the essence of ethics. On another occasion, when pressed by an eager, anxious sister of the patient for answer to important questions, I heard him reply with great dignity: "Your family physician is my mouthpiece I must refer you to him."

It is so easy to act the gentleman and so beautiful to all concerned. We can always maintain a scrupulous regard for the character and standing of the family physician and still not sacrifice the patient.

When Dr. B has completed his examination he signifies it by a nod to Dr. A and with an encouraging goodbye to the patient and others, a graceful exit is accomplished and they retire to the consultation room and shut the doors. Dr. A again states his case, his diagnosis and treatment and accords Dr. B the floor, at the same time taking out notebook and pencil. Dr. B proceeds modestly to deliver a short lecture, covering the case briefly yet fully, praising where he can, agreeing where possible, giving freely all he knows on the subject, keeping the patient's welfare uppermost, suggesting a line of procedure and treatment which in his judgment will yield the best results, and winding up by saying: "Now, my dear Dr. A, there's all I know about it. You have my ideas and suggestions; if you see fit to apply them or if you can find in any of them the help you seek, I shall be most happy." Dr. A thanks him cordially, adding the words of praise that are always so grateful and promising to keep him posted, bows him out with politeness. Returning at once to the bedside, he does Dr. B the justice to execute as many of his suggestions as will satisfy his conscience and his God, giving him a full measure of credit and fairness.

In the event that their conference fails in an agreement and the point of difference be one of special moment, they must ask the family for another consultant, and they must agree on a man whom both can trust with the burden of a decision. Or still others are often called in desperate straits—and the greater the number the greater the need for form and ceremony; and each new consultant is another honored guest of the attending physician. In rendering opinions, each is called on in their order of coming.

At this point I must enter a plea for conciseness and brevity. For the patient's sake first, because he is the one most concerned, and if your deliberations are prolonged unreasonably he will become uneasy and restless and alarmed. For the family's sake next, because they are, perhaps, awaiting your decision with breathless anxiety, and I have often found both patient and family worked up to the highest pitch of panic and excitement after protracted conference. Lastly, be brief for the sake of each other, for we are all supposed to be busy men, and any other view is an indignity. Other patients have their claims, and keeping these points in mind, it will be easy for each man to do justice to the case in hand without indulgence in matters entirely foreign. The consulting room is not the place for idle persiflage or boresome yarn-spinning and theoretical discussions should likewise be eliminated.

When a consultation is concluded and its results begin to tell, it sometimes occurs to the family and the patient that they would like that consultant to have full charge of the case—and I have known consultants to take full charge of the case and let the attending physician find out about it as best he may—this to the everlasting shame and disgrace of these consultants. The awkwardness of such a demand on the part of family or patient can only be met in one honorable way, and that is for the consultant to state to them firmly and positively that they can only have his help in connection with the attending physician.

Unless importuned by the family physician himself, offering abundant and sufficient reasons, no reputable physician is ever justified in assuming control of a case in which he has once served as a consultant. The attitude of associate counsel is always available—the retained physician and the family physician can always work together; and consideration for the patient's purse must never take precedence over a confrère's feelings. To solicit a consultation is as contemptible as to solicit a patient. No gentleman will ever be guilty of either of these grave offenses. "All discussions in consultation should be held as confidential. Neither by word nor by manner should any of the participants in a consultation assert or intimate that any part of the treatment pursued did not receive his assent." So reads verbatim Section 9 of Article III of the Principles of Medical Ethics of the American Medical Association—alas that so few of us should recognize it!

In my twenty years of study of questions ethical I have found the almost invariable excuse for flagrant violation of our Principles of Ethics to be ignorance. Ignorance is not admitted in our courts of justice—even in extenuation of the offenses of men who never professed intellectuality. Much less then should it ever be admitted to exonerate members of a learned profession.

If we be ignorant of these principles, then let us take a few days off and master them, and then make faithful endeavor to live up to them, or else take down our signs and return to the hoe and the plow. "There is no darkness but ignorance." Thus the immortal bard of Avon sounded the keynote of all civilization.

> "It is a common sentence that knowledge is power! but who hath [illegible] th the power of Ignorance? Knowledge [illegible] norance in an hour pulls down. [illegible] ent and frugal centuries, enlarges [illegible] disco [illegible] f it: Ignorance, wanting its day's dinne [illegible] record, and gives a flavor to its roast with the burned souls of many generations.
>
> "Knowledge, instructing the sense, refining and multiplying needs, transforms it into skill and makes life various with a new six day's work: come Ignorance drunk, on the seventh, with a firkin of oil and easy 'Let there not be'—and the many colored creation is shriveled up in blackness. Of a truth Knowledge is power, but it is a power reined by scruple, having a conscience of what must and what may be; whereas, Ignorance is a blind giant, who, let him but wax unbound, would make it a sport to seize the pillars that hold up the long wrought fabric of human good, and turn all the places of joy dark as a buried Babylon!"

MEDICAL PRACTICE IN PERSIA.

MIRZA SINORE MUZAFFAR RAFFIE.

KASHAN, PERSIA.

The physicians in Persia can conveniently be divided into three classes, namely, those who practice according to the old school exclusively, those who practice according to both the modern and the old schools, and those who practice according to the modern school exclusively.

Those who practice according to the old school may be again subdivided into two classes; those who can read and write, and those who can neither read nor write. The former are usually successful in the educated or partially educated communities. They have just about enough knowledge of their native tongue and also of Arabic to be able to read the medical text-books, written in both Persian and Arabic, and to follow very closely the directions and suggestions given in such books. They by no means prescribe drugs for their patients; for, aside from being totally ignorant of the application of drugs, they have a strong superstition that the use of such medicine is very harmful.

Those physicians of this class who can neither read nor write, however, are mostly "fakes" and "quacks," who, for some reason or other, have left the profession or business in which they were formerly engaged (for most of this class of physicians are those who take up the profession when they have failed in every other profession or enterprise), and have taken up the medical profession without knowing the first thing about the science of medicine. As there are no medical laws in Persia, these so-called "quacks" find a good chance to carry their own wishes through without there being anybody to suppress them. Fortunately, however, there are not very many of them to be found in cities, for they usually prefer the villages and small towns, and travel from place to place the year round.

Those who practice according to both the modern and the old schools are, as a rule, cultured Persians, who have a thorough knowledge of medicine according to Abu-Seena and Sadudie of the old Oriental school of medicine. In addition to this, they have a pretty fair knowledge of chemistry, of drugs, of physiology, and of anatomy, according to the modern school. They are, as a rule, intensely interested in the modern science of medical practice, and heartily welcome any knowledge or information from that source that they may be able to obtain. Physicians of this class are generally successful, because with this knowledge they are able to satisfy nearly all classes in the community in which they reside, with respect to medical practice. For instance, as the people of Persia are accustomed to the use of herbs as medicine, some of them are very superstitious as to the use of drugs. There are, on the other hand, others, mostly educated people, who prefer drugs and do not use herbs. Now, these physicians are so situated that they can satisfy both classes, a thing which naturally makes them very successful.

Those who practice according to the modern school exclusively are, for the most part, native doctors who have received their medical training in either France, England, Germany, Belgium, or Russia. A number of native students are being sent to foreign countries by the government every year, while there are other young men who go independently. Besides the native doctors, there are several European physicians who practice in the large cities, like Ispaham, Teheran, Tabriz, and Hammadan. Some of these are Christian missionaries who usually stay one in each city and give free medical aid to the poor.

For physicians of the last class there seems to be a great demand. Of late they have been greatly encouraged by the government in every possible way, so much so, in fact, that now most of the young men who graduate from the Royal Polytechnic College, or the "Dar-al-Funun," at Teheran, choose medicine as their profession. After studying in the college of medicine of the Royal Polytechnic for a few years, they go to Europe to finish their studies. I imagine that in no other country is there such a great field for the young medical practitioner as in Persia. Aside from the fact that he is well received and has as good a practice as he may desire, the physician of this class is looked on as a very distinguished person. The old system is gradually but surely losing its hold on the people of Persia, and the modern system is taking its place very rapidly. The ignorant class of physicians is being ignored more and more, while those who have had a modern medical education will find the government and the people ready and willing to encourage and aid them in every way.

Medical Men Deserving of Fame.—Among the great men who have influenced American life for good and who have advanced the cause of civilization, says *American Medicine*, there can be no doubt with the considerate that medicine has furnished as many as any other calling or profession.

Force Expended in Propelling a Bicycle.—Zuntz and others have been studying this subject by towing, with an automobile, a bicycle and its rider, with a dynamometer interposed on the tow-line. Among the points learned is that only about 28 per cent. of the total force expended in riding a bicycle is used in propelling it. Their report is published in the *Archiv. f. Physiologie*, 1904, supplement, summarized in the *Munch. med. Wochft.*, No. 22.

Pernicious Malaria.—C. M. Garcia of Vera Cruz reported at the recent first national medical congress at Havana a case diagnosed as pernicious malaria in a 9 months babe. The symptoms suggested meningitis or apoplexy and had developed suddenly. Respiration was rapid and superficial, but regular, and there were no convulsions, but there was total unconsciousness and insensibility, slightly subnormal temperature and filiform pulse of about 130. He injected 1 gm. (15 grains) of quinin dihydrochlorid subcutaneously, with two liters of hot physiologic salt solution, by the rectum. The child was further packed with cloths wrung out of hot water, with cold water to the head. Improvement was observed in a few minutes and recovery was complete in a few days.

Sleeping Sickness and Thyroid Treatment.—The *Berliner klin. Wochft.* for May 29 quotes Lorand of Carlsbad, calling attention to the many points of resemblance between sleeping sickness and myxedema. Both occur after a preceding infectious disease, and both exhibit symptoms indicating inadequate thyroid functioning. In sleeping sickness they are evidently the expression of pathologic changes in the thyroid gland resulting from the preceding trypanosomiasis, and, like those of myxedema, they may not become manifest until years afterward. His success with thyroid treatment in the case of an army officer returned from the Congo confirmed his assumption that sleeping sickness is due to defective thyroid function. With excessive functioning there is insomnia, but when the thyroid is insufficient the tendency is to drowsiness. The serum of thyroidectomized animals has a direct sleep-inducing action.

Standard of Robustness.—A French army surgeon named Pignet determines the comparative general health and resisting capacity by the relations between the height, chest measure and weight. The sum of the chest measure in centimeters added to the weight in kilograms is subtracted from the height in centimeters. For instance, a man 169 centimeters tall, with a chest measure of 73 centimeters and weighing 83 kilograms, would have a coefficient of robustness equivalent to 169 — (73 + 82) = 14. The smaller the figure the more vigorous the constitution. When the subtrahend is from 10 to 20 the condition may be regarded as extremely vigorous to fair; from 21 to 25, moderate; from 26 to 30 as weak; from 31 to 35 as very weak, and over 35 as indicating an extremely weak constitution. The chest measure is taken along the upper margin of the pectoralis major during the pause in respiration, the arms relaxed and pendent. The application of this standard to recruits and in life insurance examinations has afforded very valuable information at times.

How a Cholera Epidemic Was Started.—Major Sykes, British consul at Kerman, Persia, in a letter to the London *Lancet*, gives an interesting account of the origin of an epidemic of cholera. A pilgrim returned from Meshed and died from cholera a few miles out of Kerman. His body was washed in running water (a Mohammedan custom) and his clothes were sent into Kerman and sold, thus starting the epidemic. The entire Persian official community ran away, followed by every one who could procure a mount, and as a result the villages were immediately affected. Business was at an utter standstill, and the only bright side, Major Sykes states, was the heroic labors of the medical men of the Church Missionary Society who fought the epidemic single-handed. Fortunately, the cold weather was near, and by the end of December, after having run its course for about two months, with a loss of life aggregating perhaps 500, the epidemic ceased. Two salient points were brought out—viz., the necessity of providing properly trained Persian physicians and the equal necessity of training the people to obey a few simple regulations for the preservation of their health.

New Way of Protecting Against X-Ray Injury.—J. Bergonié presented a communication to the Paris *Académie des Sciences*, at the meeting of June 5, in which he described his method of protecting the operator and aids against injury in *x*-ray work. The ordinary protective measures modify the electric field or incommode the movements of the operator. These drawbacks can be avoided and perfect protection be accorded by keeping the operator above the plane corresponding to the extension of the anti-cathode, while the patient is below this plane. The space is in reality divided into two strata, the upper one being entirely free from the action of the *x*-rays. Sensitized plates can even be handled openly in the upper stratum without feeling the effects of the rays. The method is not applicable to radioscopy, but for radiography or radiotherapy, it has proved very satisfactory in six months' experience. All that is necessary is to have the plane of the bed or table on which the patient lies very low, scarcely raised at all above the floor.

Mechanism of Digestion in Stomach.—P. Grützner has an article on this subject in the last volume of *Pflüger's Archiv.*, cvi, page 463, epitomized in the *Münch. med. Wochft.*, No. 22. Frogs and crabs, rats, guinea-pigs, rabbits and dogs were fed with variously stained food, the different portions being stained different colors. A few hours afterward the stomach was taken out whole, frozen and then cut in sections. The variously colored portions of the food were not mixed together, but were found in sharply defined strata, the portion last taken being in the center of the stomach content. This allows the digestion of starch to continue, as there has been no contact with the secretions of the gastric wall. The central portion does not feel the influence of these secretions until the portions below it have been mixed with gastric juice and evacuated. Ingested fluid is rapidly passed along through the lesser curvature and out of the stomach. These facts deserve consideration in examining portions of stomach content obtained with the stomach tube.

New Journals.—*Surgery, Gynecology and Obstetrics* is a new international monthly magazine, edited by Drs. Franklin H. Martin and Allen B. Kanavel, Chicago. The list of men on the editorial staff and among the collaborators leaves nothing to be desired as far as standing is concerned. The first issue is well illustrated, contains several interesting articles, many well-selected abstracts and representative society reports. The editors in their salutatory recognize the fact that they are entering a field of medical journalism in which there are already many creditable journals, and take the radical stand that not one of the members of the editorial staff "will be satisfied if the journal does not take immediately a prominent place in the world of medical journalism and ultimately a leading position. They each realize that there is no call for another ordinary surgical journal, and that if they do not succeed in making this a journal far beyond the ordinary, there is no reason for its existence." It is gratifying to have the assurance that another mediocre journal is not intended, and we wish the new journal success. Its first number presents an excellent appearance in style and arrangement. The magazine ought to succeed. We regret to see in the advertising pages some of the worst nostrums that are being exploited to our profession. Is it possible that the publishers can not get along without the support of nostrum mongers? ——The *Wyandotte County Medical Journal* makes its first appearance as the official organ of the Wyandotte County Medical Society, and is issued at Kansas City, Kan. It contains several original articles, some pointed brief editorials and some news matter. Its aim is a modest one, as expressed by the editors. They propose simply to supply a medical publication which they feel is needed, and announce their willingness to retire when that need ceases. The typographical appearance is very good.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

POWER OF THE COUNTY SOCIETY.

Port Richmond, N. Y., June 23, 1905.

To the Editor: Can our local society dismiss us from the society for doing lodge or contract work? If we were dismissed from our local society what would be the effect in other societies, such as New York State Medical Association, or the American Medical Association? Has it been settled that contract lodge work or family work is non-ethical?

N. A. Chapman, M.D.

Answer.—Each county society has the right to determine what, within its jurisdiction, constitutes or does not constitute "unprofessional conduct." Of course, then, each county society has the power to decide who may or who may not be elected or remain members. These autonomous rights, however, under the general organization, are qualified by restrictions in the interest of justice and of comprehensive organization. A physician may not be debarred from the organization except it be shown that in some respect he is unfit for association with his fellows. In determining the facts of an individual case, the physician who is refused membership or who is expelled has the right of appeal, so that mere local prejudices alone may never suffice to place on him the ban of ostracism. It is clear that a county society has the right to declare that contract or lodge practice constitutes unprofessional conduct, but its action in so doing, as well as in carrying into effect such a provision, is subject to review and adjudication by the state association of which it forms a component part. As to whether contract practice in every form is unprofessional conduct is a problem that the profession yet regards as sub-judice. In a case such as mentioned by our correspondent, the aggrieved party has a right to ask a full hearing by the state association. Dismissal from the county medical society of the county in which one lives, under the present generally adopted mode of organization, carries with it disability for membership in the state medical association and in the American Medical Association. The definition, limits, and ethics of lodge and contract practice have yet to be decided by the profession, though in most forms now existent such practice is regarded by the best professional opinion as decidedly reprehensible.

FORMIC ACID AND THE FORMATES IN THERAPEUTICS.

Abbington, Va., June 21, 1905.

To the Editor:—Can you tell me through your columns the results of the experiments made with formic acid, the therapeutic use of the formates or where they may be secured.

John W. Cronган.

Answer.—We know little of which we can speak with authority, although we have seen many sensational reports in the newspapers, purporting to be cablegrams from Europe. Dr. Clement, of Lyons, France, called attention last year to the stimulating action of formic acid on the muscular system. The drug is an old one, and Huchard, in a later communication to the Paris Académie de Médecine, March 14, 1905, traced its history through various pharmacopeias of past centuries, and related a number of experiences in regard to what he called its remarkable tonic action on the muscular system. He asserted that persons taking it are said to feel invigorated and to be able to perform feats of endurance without fatigue, the effect being felt for even a week afterward, and fatigued muscles rapidly recuperating under its influence. Huchard claimed to have used it in various forms of debility, with good effect, as he related in detail. He said that his experiences confirmed those reported by Clement. He declared that after taking 15 gm. of sodium formate in five days the ergograph showed that his muscular force had increased from 8 kilograms, 750, to 30 kilograms, 650, almost quadrupling in less than six days. He said further that the drug has also a diuretic action, while it is not toxic. As much as 60 gm. of sodium formate were required to kill a dog of medium size. Clement has been taking the drug himself for twenty months, without ill effects. The formic acid is usually given in the form of a formate, made by saturating the acid with carbonates or oxids. Sodium formate is soluble and deliquescent. It is given in 2 or 3 gm. doses daily for a week. The dose of formic acid is about 2 gm., diluted and neutralized with 4 gm. of sodium bicarbonate. The taste is rather disagreeable, and sodium formate is preferable. The other formates are less soluble. Sodium formate is made by Merck & Co., and may be purchased from any wholesale drug house.

NEW TECHNIC FOR CIRCUMCISION.

Birmingham, Ala., June 26, 1905.

To the Editor: In The Journal, June 17, 1905, p. 1949, Dr. M. E. Gardner, writing from Ancon, Canal Zone, describes a method of circumcision and asks whether or not it has been described before. What is practically the same operation was described by Dr. Walter C. Klotz, at that time, October, 1902, assistant surgeon to Roosevelt Hospital, New York City, in the *New York Medical Journal*, Vol. LXXVI., No. 14, p. 575. The operation described by Dr. Klotz. however, is a better one than that described by Dr. Gardner, for this reason: The cuff of skin is removed nearer the corona, and thus is formed of the very tissue which we are endeavoring to be rid of, viz., the constricting prepuce. It thus meets, also, the objection you cited in your reply to Dr. Gardner.

As stated, both by you and by Dr. Klotz, the operation is not adapted to children.

J. M. Lowery, M.D.

State Boards of Registration

COMING EXAMINATIONS.

State Medical Board of the Arkansas Medical Society, Little Rock, July 11. Secretary, J. P. Runyan, Little Rock.

Rhode Island State Board of Health, State House at Providence, commencing at 9 a. m., July 11. Secretary, G. T. Swarts, State House, Providence.

Wisconsin Board of Medical Examiners, Park Hotel, Madison, Wis., July 11. Secretary, F. A. Forsbeck, Milwaukee.

State of Connecticut Medical Examining Board, City Hall, New Haven, Conn., July 11-12. Secretary, C. A. Tuttle, New Haven.

Maine Board of Registration of Medicine, State House, Augusta, Maine, July 11-12. Secretary, Wm. J. Maybury, Saco.

Board of Registration in Medicine, State House, Boston, Mass., July 11-12. Secretary, E. B. Harvey, Boston.

Vermont State Board of Medical Registration, Y. M. C. A. Hall, Burlington, Vt., July 11-12-13. Secretary, W. Scott May, Underhill.

Kansas State Board of Medical Registration and Examiners, State House, Topeka, Kan., July 12-13. Secretary, G. F. Johnston, Lakin.

South Dakota Board of Medical Examiners, Sioux Falls, S. Dak., July 12-13. Secretary, H. E. McNutt, Aberdeen.

Board of Medical Supervisors, Washington, D. C., July 13. Secretary, Wm. C. Woodward, Health Department, Washington.

California State Board of Medical Examiners, San Francisco and Los Angeles, Cal., July 19. Secretary, C. L. Tisdale, San Francisco.

State Board of Health of West Virginia, Charleston, W. Va., July 18-20. Secretary, H. A. Barbee, Point Pleasant.

State Board of Health of Illinois, the Great Northern Hotel, Chicago, July 19-21. Secretary, J. A. Eagan, Springfield.

Indiana May Report.—Dr. W. T. Gott, secretary of the Indiana Board of Medical Registration and Examination, reports the written examination held at Indianapolis, May 2-4, 1905. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, equivalent to 75. The total number examined was 182, of whom 138 passed, including 30 osteopaths, and 44 failed, including 8 osteopaths. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Medical College of Indiana	(1905)	78.28, 82.69, 81.98, 81.1, 80. 78, 77.94, 83.41, 87.21, 84.91, 75.04, 83.59, 82.7, 75.2, 86.6, 79.35, 78.56, 84.44, 87.85, 83.09, 85.76, 80.62, 80.25, 81.6, 76.86, 89.48, 83.16, 77.46, 75.23, 79.21, 83.05, 84.94, 75.85, 86.99, 84.61, 77.16, 75.56, 78.6, 83.04, 78.61, 83.55, 87.37, 79.11, 80.93, 79.2, 78.21, 79.73, 82.57, 82.51, 85.2, 77.13, 85.5, 81.38, 75.6, 82.58, 83.19, 84.22, 85.1, 81.45, 86.35, 75.93, 80.1, 82.12, 80.76, 79.15.
Central College of P. & S., Indianapolis	(1905)	70.87, 63.47, 72.3, 84.2, 76.3, 83.92, 85.84, 79.84, 79.29, 80.92, 83.48, 76.02, 86.5, 79.08, 79.93, 78.29, 86.55, 80.94, 84.15
Eclectic Med. Coll. of Indiana	(1905)	75.1 80.46
Physio-Medical Coll. of Indiana	(1905)	75.22
Fort Wayne Coll. of Med.	(1905)	75.84, 81.42, 81.93, 82.13, 77.65, 79.24, 80.57, 79.5
Tulane University	(1892)	84.17
Louisville Med. Coll.	(1898)	76.96
Illinois Med. Coll.	(1905)	83.85
Eclectic Med. Inst., Cincinnati	(1905)	75.32
Kentucky School of Med.	(1904)	77.83
Univ. and Bellevue Hosp. Med. Coll.	(1903)	86.7
University of Louisville	(1905)	79.55
University of Michigan	(1904)	85.65
Rush Med. Coll.	(1900) 85.02; (1903)	89.4
College of P. & S., Chicago	(1902) 85.06; (1903)	77.17
Univ. of Michigan Homeo. Med Dept.	(1902)	76.9
Cornell University	(1904)	86.45
FAILED.		
Medical College of Indiana	(1901) 68.69*; (1905)	74.5, 74.07, 73.95, 60.55, 73.7, 68.67, 72.29, 65.28, 70.68, 73.88, 73.5
Central College of P. & S., Indianapolis	(1905)	70.87, 63.47, 72.3, 64.14
Physio-Medical Coll. of Indiana	(1905)	69.3, 67.43, 67.13
Eclectic Med. Inst., Cincinnati	(1905)	73.85, 69.15, 73.35; (1903) 59.48**
Hospital Coll. of Med., Louisville	(1904)	47.6†, 67.09*, 66.25*

Louisville Med. Coll.	(1905)	67.5, 73.69
University of Louisville	(1905)	72.65
Tennessee Med. Coll.	(1899)	65.72
Columbia Univ., New York	(1900)	72.46
Illinois Med. Coll.	(1905)	74.85
University of Kentucky	(1904)	61.5*
Eclectic Med. Coll. of Indiana	(1905)	68.5
Fort Wayne Coll. of Med.	(1905)	65.33, 74.65

The general average attained by all representatives of the Medical College of Indiana who passed was 79.92; of the Central College of P. & S. of Indianapolis, 81.05; of Fort Wayne College of Medicine, 78.61.

* Third examination.
** Fourth examination.
† Second examination.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending July 1, 1905.

Bratton, Thos. S., asst.-surgeon, since June 22, 1905, in temporary charge of C. S. O., Department of the Lakes, Chicago.

Heizmann, C. L., asst.-surgeon general,granted two months' leave of absence.

Girard, Jos. R., asst.-surgeon general, on arrival at San Francisco, will report to commanding officer, Army General Hospital, Presidio of San Francisco. for observation and treatment.

Darnall, Carl R., asst. surgeon, granted thirty days' leave of absence.

Gibson, Robert J., surgeon, left Fort Logan, Colo., on thirty days' leave, with permission to apply for three months' extension.

LeWald, Leon T., asst.-surgeon, leave of absence extended fourteen days.

Ford, Clyde S., asst.-surgeon, granted two months' leave of absence, to take effect July 1, 1905.

Smart, Robert, asst.-surgeon, ordered to proceed from Fort Myer, Va., to Fort Washington, Md., for temporary duty.

Jones, Percy L., asst.-surgeon, granted twenty days' leave of absence.

Ruffner, E. L., asst.-surgeon, left Columbus Barracks, Ohio, with receruits to Fort Lawton, Wash.

Jones, Percy L., asst.-surgeon, advanced to rank of captain.

Krebs, Lloyd LeRoy, asst.-surgeon, reported for temporary duty *at Presidio of Monterey, Cal.*

Greenleaf, H. S., asst.-surgeon, left from temporary duty at Fort Armistead, Md., on ten days' leave of absence.

Wall, Francis M., contract surgeon, returned to Fort Oglethorpe, Ga., from leave of absence.

Gardner, Fletcher, contract surgeon, recently arrived at San Francisco, from the Philippines, ordered to accompany the Twenty-third Infantry to Madison Barracks, N. Y., before availing himself of three months' leave of absence.

de Quevedo, Luis G., contract surgeon, relieved from duty at Henry Barracks, P. R., and ordered to San Juan, P. R., for duty.

George, William R. S., contract surgeon, relieved from duty in Porto Rico, and ordered to New York City for instructions.

Thorp, Charles W., contract surgeon, ordered from Fort Ethan Allen, Vt., to Plattsburg Barracks, N. Y., for temporary duty with the Fifth Infantry.

Sievers, Robert E., contract surgeon, arrived at Fort Yellowstone, Wyo., for temporary duty in the Yellowstone National Park.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending June 28, 1905.

[illegible] surgeon, department letter of April 13, 1905, [illegible] ence from May 2, 1905, amended to read one [illegible]

[illegible] P. A. surgeon, granted leave of absence for [illegible] 7.

Goldberger, Jos., P. A. surgeon, to proceed to Grafton and Morgantown, W. Va., for special temporary duty.

Earle, B. H., asst. surgeon, granted leave of absence for seven days from June 25.

Steger, E. M., asst.-surgeon, relieved from duty at New Orleans, and directed to proceed to Philadelphia for temporary duty.

Gray, R. H., acting asst.-surgeon, granted leave of absence for thirty days, from July 6.

Keatley, H. W., acting asst.-surgeon, granted leave of absence for seven days, from June 14, under paragraph 210 of the regulations.

Owen, H., acting asst.-surgeon, granted leave of absence for thirty days, from July 3.

Sinks, E. D., acting asst.-surgeon, granted leave of absence for twenty-one days, from July 7.

Ryder, L. W., pharmacist, granted leave of absence for seven days, from June 26.

Hall, L. P., pharmacist, granted leave of absence for thirty days from July 10.

Stier, C., pharmacist, to report to chairman, board of examiners, to determine his fitness for promotion to the grade of pharmacist of the second class.

BOARDS CONVENED.

Board to meet at Washington, D. C., June 27, 1905, for the physical examination of candidates for cadets in the Revenue Cutter Service. Detail for the board: Assistant Surgeon, J. W. Trask, chairman; Assistant Surgeon H. McG., Robertson, recorder.

Board to meet on the Revenue Steamer *McCulloch*, Portland, Ore., July 3, 1905, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Assistant Surgeon B. H. Earle, chairman; Acting Assistant Surgeon C. H. Wheeler, recorder.

Board to meet at Key West, Fla., July 3, 1905, for the examination of Pharmacist C. Stier to determine his fitness for promotion to the grade of pharmacist of the second class. Detail for the board: Surgeon C. E. Banks, chairman; Acting Assistant Surgeon, S. D. W. Light, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the period from June 24 to June 30, 1905:

SMALLPOX—UNITED STATES.

Illinois: Danville, June 17-26, 2 cases.

Indiana: Southbend, June 17-24, 4 cases, 2 deaths.

Louisiana: New Orleans, June 17-24, 6 cases, 2 imported.

Michigan: Grand Rapids, June 17-24, 7 cases, 4 deaths.

Missouri: St. Joseph, June 17-24, 6 cases; St. Louis, 2 cases, 1 death.

New Jersey: Newark, June 18-25, 1 case.

South Carolina: Charleston, June 10-17, 2 cases.

Wisconsin: Appleton, June 17-24, 6 cases; La Crosse, 1 case; Milwaukee, June 10-17, 1 case.

SMALLPOX—INSULAR.

Philippine Islands: Manila: May 13-20, 2 cases.

SMALLPOX—FOREIGN.

Brazil: Pernambuco, May 8-16, 223 deaths.

Canada: Winnipeg, June 10-17, 2 cases.

China: Hongkong, April 22-29, 8 cases, 2 deaths; Shanghai, May 6-13, 1 case.

Colombia: Cartagena, June 3-10, 1 case 1 death.

Denmark: Copenhagen, June 3-10, 1 case.

Ecuador: Guayaquil, May 31-June 6, 1 death.

France: Paris, May 27-June 10, 46 cases, 4 deaths.

Germany: Bremen, June 3-10, 2 cases.

Great Britain: Bristol, June 3-10, 1 case; Edinburgh, 1 case; London, 3 cases; New Castle-on-Tyne, 1 case; Nottingham, May 27-June 3, 1 case; South Shields, June 3-10, 1 case.

India: Bombay, May 16-23, 34 deaths; Calcutta, May 13-27, 14 deaths; Karachi, May 14-21, 2 cases, 2 deaths; Madras, May 13-19, 2 deaths.

Italy: Catania, June 8-15, 3 cases.

Mexico: Mexico City, June 10-17, 6 cases, 4 deaths.

Russia: Odessa, June 3-10, 8 cases, 3 deaths; St. Petersurg, May 27-June 3, 10 cases, 3 deaths.

Turkey: Constantinople, May 20-June 10, 6 deaths.

Uruguay: Montevideo, April 1-31, 4 deaths.

YELLOW FEVER—FOREIGN.

British Honduras: Belize, May 25-June 15, 5 cases, 4 deaths.

Ecuador: Guayaquil, May 31-June 6, 12 deaths.

Guatemala: Livingston, June 10, 1 case.

Honduras: Puerto Cortez, May 25-June 15, 18 cases, 8 deaths.

Mexico: Coatzacoalcos, June 11-17, 1 death; Sierra Blanca, 2 cases, 3 deaths.

Panama: Colon, Jan. 23-June 16, 28 cases, 8 deaths; Panama, Jan. 1-June 16, 91 cases, 29 deaths.

CHOLERA—FOREIGN.

India: Calcutta, May 13-27, 42 deaths.

PLAGUE—INSULAR.

Hawaii: Hilo, June 24, 1 death; Honolulu, June 23, 1 death.

Philippine Islands: Cavite, May 13-20, 1 death.

PLAGUE—FOREIGN.

Arabia: Aden, May 12-26, 2 cases, 1 death.

Australia: New South Wales, Newcastle, April 22-May 6, 4 cases, 2 deaths.

Northern Rivers District: Ballina, April 25-May 6, 2 cases, 1 death; Lismore, April 29-May 6, 2 cases, 2 deaths.

India: April 29-May 6, 60,674 cases, 59,253 deaths; Bombay, May 16-23, 577 deaths; Calcutta, May 13-27, 318 deaths; Karachi, May 14-21, 119 cases, 116 deaths.

Japan: *Tokyo, May 6-20, 3 cases, 3 deaths.*

Panama, Panama, June 26, 1 death.

Peru: Chiclayo, May 11-31, 12 cases, 4 deaths; Lima, 5 cases, 2 deaths; Mollendo, May 11-31, 6 cases, 7 deaths.

Society Proceedings

COMING MEETINGS.

American Medical Association, Portland, Ore., July 11-14, 1905.

Amer. Assn. of Life Ins. Exam. Surgeons, Portland, Ore., July 10.
American Medical Editors' Assn., Portland, Ore., July 10.
American Urological Association, Portland, Ore., July 12-13.

CHICAGO SURGICAL AND CHICAGO MEDICAL SOCIETIES.

Joint Meeting, held June 7, 1905.

Dr. L. L. McArthur, President of the Chicago Medical Society, in the Chair.

The Biologic Aspect of Carcinoma.

Professor G. N. Calkins of Columbia University, New York City, and biologist to the State Cancer Laboratory, Buffalo, after discussing at length the nature of the various stimuli which cause abnormal proliferation in differentiated cells, mentioned studies of his own that were undertaken relative to the nature of division energy of the cells, to find out what it is that will control it, what will increase or decrease its activity, what stimuli are necessary, and what conditions of metabolism and morbidity have their effects on it. He mentioned two of the theories which have to do with the explanation of the stimulus of division energy of the carcinoma cells. First, Marchand's, which is analogous to the stimulus of the gall-producing insect poison on plant cells; and, second, the parasite hypothesis. At the State Cancer Laboratory at Buffalo they have some two hundred mice with carcinoma. The original tumor mice, which Dr. Gaylord brought from Professor Jensen's laboratory in Copenhagen, in February, 1904, died on the way from New York to Buffalo. The tumors were removed and put on ice. In three days, when mice were obtained, the tumors were transplanted into normal mice. About 40 per cent. of the transplantations took, and a large number of mice developed carcinoma. These make their appearance in from three to five or six weeks after inoculation, the tumor mice ultimately developing symptoms of cachexia, followed by death. The tumors that developed varied in size from one-third the weight of the mouse, plus the tumor to one-fifth. These tumors were transplanted from mouse to mouse nine successive times. Professor Jensen had similarly transplanted the tumors from mouse to mouse for a period of two and a half years before Dr. Gaylord brought them from his laboratory to Buffalo, so that altogether there have been, in all probability, about thirty to thirty-five generations or trasplantations of this tumor. These tumors are merely metastases from the original growth. The cells of the old tumor in each successive new environment were stimulated to grow and develop into a new tumor. According to the Marchand hypothesis, the primary stimulus which the first mouse received was a poison which originated from deranged metabolism, from malnutrition or from some other product of morbidity in the organization of the mouse. Calkins asks whether we are to assume that there is formed in every mouse morbid products which carry on the stimulus to the dividing energy of the cells. In other words, can the organism produce a toxin which acts as a continued cumulative disease factor? On the other hand, according to the parasite hypothesis, the primary tumor of the original mouse was caused by poison from some parasite. Some advocates may argue that it is an initial parasite invasion: others a continued parasite infection which carries on the primary stimulus through generations of tumors, and causing the production of a large mass of cells which represents ten to twenty times the actual weight or size of the mouse. If the latter view is correct, every epithelial cell has within itself parasites which keep on producing a stimulus to the division energy. There is absolutely no morphologic element in cancer cells, which can be interpreted as parasites, and no morphologic evidence of such parasitism. The advocates of the parasite hypothesis are forced to the conclusion that the parasite must be ultramicroscopic. Calkins does not advocate that view, which, he said, is gaining ground throughout the scientific world. Schaudinn, a very eminent parasitologist, believes in the possibility of ultramicroscopic organisms. The Pasteur Institute has practically accepted this explanation for certain diseases.

In November, 1904, the mouse tumor began to deteriorate; and the mice showed signs of natural immunity and ability to throw off disease. A great many mice spontaneously recovered. They have had altogether over a hundred and fifty cases of spontaneous recovery from true carcinoma in mice. They think the tumor material was growing physiologically old, and that it would die out and their means of experimentation would be lost. A tumor, however, was transplanted to a new strain of mice, and the virulence of the cells was restored, so that the mice died in from three to five weeks after inoculation. Dr. Clowes, chemist of the laboratory, conceived the idea that the blood from such a spontaneously cured mouse might carry immunity. He inoculated some mice having tumors of small size with the immune blood from a mouse that had spontaneously recovered. This was done in a number of cases, and six tumors disappeared by this immune serum. Experiments have shown that immunity thus acquired has been efficient up to the present time, and has carried with it protection to the mice against reinfection. The experiments have been tried subsequently in a slightly different form. In one such experiment, for example, forty-five mice from the same source were taken; twenty-three of them were treated with cancer mush plus the immune serum from the mice which had spontaneously recovered; and twenty-two of them were treated with cancer mush plus the normal blood of normal mice. The only difference between them, apparently, was the immune factor from cases in which the mice had spontaneously recovered. In the twenty-three mice treated with this immune serum, three developed tumors. In the twenty-two mice that were treated with normal blood, plus the serum, ten tumors developed, or about the proportion of tumors successfully produced by the inoculation method.

This, in brief, he stated, is the proposition, from a biologic point of view, of the cancer problem to-day. It is not known what causes the stimulus. It is not known that there is a parasite in cancer. It is not known that a specific poison produced in any way is the cause of carcinoma; nor is there sufficient evidence on biologic and cytologic grounds to justify the hypothesis of Farmer, Moore, Walker and Bashford. Progress, however, is being made.

DR. E. WYLLYS ANDREWS read a paper in which he discussed the past and future surgery of carcinoma.

The X-Ray Treatment of Carcinoma.

DR. WILLIAM ALLEN PUSEY emphasized the point that carcinoma tissue on the surface can with practically unvarying regularity be destroyed with *x*-rays and be replaced by healthy scar tissue. But when we come to carcinomas more deeply situated, we are not in possession of many authentic facts. He has had two cases from which he can furnish definite postmortem data. These two cases were primary carcinomas of the breast. One of these, an old woman, had a large primary carcinoma of the breast without involvement of the skin, with enlarged axillary glands, and with spinal metastasis when the treatment was begun. The patient received vigorous *x*-ray exposures, lasting about a month, with the production of a dermatitis which subsided completely before her death, about three months after the treatment began. At the postmortem examination it was found that the breast was a mass of connective tissue, without any carcinoma tissue remaining. The same is true of the axillary contents. They were converted into a mass of connective tissue without the remains of carcinoma.

In the second case there was a large primary carcinoma of the breast without involvement of the skin, and with enlargement of the axillary glands. She received vigorous treatment for six weeks, with the production of only a mild reaction. About three weeks afterward she developed an acute gastritis, from which she died. On postmortem it was found that the tumor of the breast had been converted into a small fibrous mass about the diameter of, and two-thirds the length of, an index finger. The carcinoma had been destroyed, and there remained in its place a small mass of scar tissue. In this case the axillary glands had not been affected. He believes that any epithelioma which has not metastases, and which has not deeply involved the subcutaneous tissue, may be symptomatically cured by *x*-rays. As to *x*-rays stimulating the growth of carcinoma, which they can not cure, he has seen no cases which would lend weight to this hypothesis. On the contrary, he has had many cases in which the amelioration of the condition during *x*-ray exposures was explained away by calling attention to how frequently these cases do better than is to be expected.

DISCUSSION.

DR. ARTHUR DEAN BEVAN said the first thing that impresses him in the clinical study of carcinoma is that it is primarily a local disease, limited to one point, sometimes to a few points. One sees clinically occasionally epithelioma, for instance, which, when examined carefully, shows three or four points of invasion very close together. Clinically, we see carcinoma involving occasionally both breasts. These exceptions do not, however, disprove the statement that carcinoma is primarily a local disease. A second point that impresses him clinically is, that whether carcinoma is a parasitic disease or not, its history is that of a parasitic disease. Whether the researches of the future show that it is a peculiar chemical stimulus that acts on the cells and produces these changes, or whether it is a parasite, whether it is purely chemical and independent of any low form of life, or the result of some low form of life, made no difference, as the clinical history of carcinoma remains that of a parasitic disease.

In regard to the present results of surgical treatment of carcinoma, these vary in different regions of the body, and the reports from different clinics vary widely. For instance, some surgeons who have made several hundred operations for epithelioma of the cervix, state that possibly less than 5 per cent. of these cases are permanently cured. Some men even have gone so far as to say that less than 1 per cent. of such cases are permanently cured by surgery. On the other hand, cancer of the body of the uterus furnishes a far greater proportion of permanent cures. Carcinoma of the larynx furnishes a comparatively large proportion of permanent cures; while carcinoma of the breast occupies a rather mid-position between extremely fatal carcinoma of the cervix and more favorable carcinoma of the larynx. An analysis of the different statistics of carcinoma of the breast shows that surgical treatment furnishes somewhere between 20 and possibly 30 per cent. of permanent cures.

Another point that has impressed him very much is the three-year limit. It has been taught for some time that if a patient lives beyond three years without recurrence there is little danger of such recurrence. A careful analysis of statistics will show that this is not so. Cases of carcinoma recur three and a half, four, six and even ten years after operation. There is a gradual diminution in the percentage of recurrences as the time period increases from the date of the operation.

He agrees with Dr. Pusey as to the value of the *x*-ray in epithelioma. He thinks it should not be used in cases of thick epithelioma, whether the lymphatics are involved or not. Superficial epithelioma is the form in which the *x*-ray is particularly of value.

There are two great dangers from the use of the *x*-ray. One is that it will produce serious burns in the hands of men who are not experienced in its use. The other is that it will do positive damage when it is used in a case where a surgical operation, if employed sufficiently early, will hold out a good hope of permanent cure, but where delay produced by the use of the *x*-ray wastes valuable opportunity and lessens the chances of permanent cure.

AMERICAN PROCTOLOGIC SOCIETY.

Seventh Annual Meeting, held at Pittsburg, May 5, 1905.

The President, Dr. J. R. Pennington, Chicago, in the Chair.

The Prevalent Neglect of Proctology.

Dr. Pennington, in his address as president, referred to the adverse criticism which the organization and continued prosperity of this society had provoked in certain quarters. He showed that its existence was a logical and necessary step of progress. Special societies arise by a process of natural differentiation. This differentiation, which is unavoidable, by organization of the resulting groups, makes possible a greater definiteness of structure and function of the medical profession. Special organizations have multiplied more rapidly in the past thirty years than during any previous period, and likewise the advancement in the science of medicine has been greater during the same period. The subject of proctology had been neglected in the past until the charlatan claimed it as his special field, and the profession seems still to be doing much to support the claim. Of the sixty-six institutions belonging to the Association of American Medical Colleges, only eight make any provision for teaching proctology. This association adopted a curriculum consisting of 27 subjects. This extensive course provides for thirty hours to be given each to medical jurisprudence, dietetics, hygiene and public health; sixty hours each to nose and throat and genito-urinary diseases, and one hundred and sixty hours to gynecology. No reference whatever is made to the subject of rectal diseases.

It may be claimed by schools that do not include proctology in their curricula that the chair of general surgery devotes a certain number of hours to these diseases. If so, why are there so many reputable physicians in this country who have never heard a lecture on rectal diseases nor witnessed an ano-rectal examination or operation? Dr. Pennington concluded that there is a distinct need for this society, viz., the reclamation of this specialty for ethical medicine, and that the society will exist, prosper and grow in influence in proportion as it meets this need.

Malignant Disease of the Rectum and Its Treatment.

Dr. G. B. Evans, Dayton, Ohio, prefaced his remarks with a plea for thorough examination of all cases complaining of rectal symptoms. Many cases of uterine cancer have been termed "change of life," and very many cases of rectal cancer "piles," because of neglect of this precaution. It is the consensus of opinion that cancer is at first purely local and that early recognition and thorough extirpation will cure a large proportion of all cases. Formerly Evans was an advocate of colostomy in these cases, but he now believes that this procedure should be reserved for these cases which have advanced so far as to render the radical operation hopeless. The only contraindication he would recognize as absolute is fixation of the rectum by extension of the growth to adjacent structures. The perineal and combined abdominal and perineal routes were recommended.

"The Ambulant Treatment of Internal Hemorrhoids."

Dr. F. C. Martin, Philadelphia, strongly defended the injection method. His technic consists of the injection of 7 to 10 minims of a 50 per cent. solution of phenol into each pile tumor at intervals of from two to seven days, depending on the effect produced. As a preliminary to beginning the injection, he recommends divulsion of the sphincters under nitrous oxid anesthesia, much of his success with the method being attributed to this procedure. He concluded that there are not more than 15 per cent. of recurrences, and that accidents and complications are by no means so frequent as after the ligature and clamp and cautery operations. In addition, the method is practically painless and the patient is not detained from business.

Fecal Impaction of the Rectum.

Dr. T. C. Martin, Cleveland, emphasized the value of the proctoscope for treatment as well as diagnosis. One of the cases reported was of special interest in that the cause was found to have been a ventral fixation of the uterus in which the rectum, by means of the utero-sacral ligaments, had been anchored so immovably that the patient could no longer "bear down" effectually.

Urethro-Rectal Fistula.

Dr. W. M. Beach, Pittsburg, after citing a number of cases and describing his method of treatment, drew the following conclusions: 1. Urethro-rectal fistula is comparatively rare and very easily overlooked. When in doubt, use the permanganate test. 2. It generally follows prostatic abscess of gonorrheal origin. 3. It may result from traumatism—faulty use of sound, lithotomy, etc. 4. This is one type of fistula which demands suturing. The suture material should be No. 3 forty-day catgut. 5. The care of the wound should never be left to an assistant; no one can possibly know as much about it as he who made it. 6. A certain number of cases of recent urethral origin will heal spontaneously where the stricture is relieved.

Pruritus Ani and Its Local Treatment.

Dr. Lewis H. Adler, Philadelphia, said the male sex is affected in about 95 per cent. of cases. In nearly all the cases the patients are more or less neurotic and of a decidedly bilious temperament. The cases demand the removal of all exciting causes, and regulation of habits of life should precede and attend local treatment. The latter consists in the daily injection into the cavity of the rectum of from 1 to 2½ drams of the following mixture:

℞.	Ext. hamamelis fld	℥j	32
	Ext. ergot fld	ʒii	8
	Ext. of hydrastis fld	ʒii	8
	Tr. benzoin comp	ʒii	8

If the peri-anal skin is dry and tough, the entire surface should be painted with a concentrated solution of silver nitrate (960 grains to the ounce). This may require repetition several times at intervals of a few days to restore the skin to normal. After this is accomplished, full strength citrine ointment is to be applied and renewed daily for the first two or three weeks, and thereafter on alternate days or twice a week. This method of treatment may extend over a period of six months, or even longer.

The Operative Treatment of Tuberculous Rectal Fistula in the Tuberculous.

DR. J. COLES BRICK, Philadelphia, said that the frequent association of rectal fistula and phthisis has long been recognized. Some authors claim that 5 per cent. of consumptives develop fistula, and Hartman found that of 48 cases of fistula 23 were positively tuberculous. In Brick's opinion the irritating effects of the ether are often responsible for the onset of pulmonary symptoms. For this reason he employs nitrous oxid and oxygen when a general anesthetic is demanded. All raw surfaces are seared with the hot iron. When the case is extensive it is better to perform the operation in stages so as to minimize the period of confinement to bed. Special stress was laid on the after-mangement of these cases. The patient should be kept in bed as little time as possible, but no active exercise is allowed until weight has returned to normal. Forced feeding and out-door air are recommended, and daily sponging with tepid or, if the patient's vitality is sufficient, with cold water, is of great value. A weekly gain of weight is the only standard of favorable progress. Brick advised that all fistula patients be carefully examined for local and pulmonary tuberculosis, and even though the examination be negative, that every case be treated as though tuberculosis were likely to develop.

Personal Experience in the Employment of Mechanical Vibration in the Treatment of Rectal Diseases.

DR. W. L. DICKINSON, Saginaw, concluded that this is a valuable method of treatment and deserving of more general use by the proctologist. A number of instances were recounted in which it has been successfully used for the relief of fissures and to accomplish dilatation of the sphincters. But the author thought that its greatest field of usefulness was in the treatment of chronic constipation. He gave the technic of its application in such cases.

The Office Treatment of Rectal Diseases and Its Limitations.

DR. JAMES P. TUTTLE, New York, said the trend of practice in rectal diseases at the present day is threefold: (1) Toward a more general resort to operative measures. (2) Toward a wider application of local anesthesia. (3) Toward a great increase in office treatment. These tendencies are due to the following facts: First, the public as well as the profession has learned that non-operative measures can not be relied on for permanent cures. Second, dread of general anesthesia has greatly diminished, due chiefly to improved methods in the use of ethyl chlorid and nitrous oxid, alone or as adjuvants to ether. Third, dissemination of the knowledge that most of the minor rectal surgery can be done under cocain or other local anesthetic with as little pain and almost as little detention from business as is occasioned by the non-operative measures which give only temporary and uncertain relief. Fourth, local anesthesia is being more generally adopted because it is safer, can be quickly applied, simplifies the work, and at the same time, if properly used, permits of as thorough work as general anesthesia. Cocain, eucain, stovain, in 1 per cent. solution, and sterile water, are all reliable local anesthetic agents. Stretching of the sphincter has heretofore been the most difficult thing to accomplish under local anesthesia, but Tuttle referred to a method he had devised, making it possible to operate painlessly on hemorrhoids, fissures, small fistulas, ulcerations, tumors low down and even low strictures. He considers certain conditions requisite: (1) Asepsis; (2) careful selection of cases; (3) complicated and plastic operations not to be undertaken; (4) when general anesthesia is necessary it is better to have patient at home or in the hospital, even though it may be possible to do the work in the office.

A Contribution to the Pathology of External Piles.

An abstract of the paper of Dr. J. L. Krouse, Cincinnati, is published in this issues of THE JOURNAL, page 134.

Summary of Twenty-five Radical Operations on the Rectum Under Local (Sterile Water) Anesthesia.

DR. A. B. COOKE, Nashville, cited 25 operations: Internal hemorrhoids, 15; prolapsus ani, 2; anal fissure, 2; external hemorrhoids, 6. From this series of cases he drew the following conclusions: The method is simple, safe and effective. Pain at the time of operation is exceptional. Postoperative pain is far less than after the old methods. Time of detention from business is reduced more than half. It offers a reliable means of extending the benefits of surgery to a large class of cases which would otherwise be unsuitable for operation. It robs these operations of their terrors.

Officers Elected.

President, Dr. Lewis H. Adler, Jr., Philadelphia; vice-president, Dr. George B. Evans, Dayton; secretary-treasurer, Dr. A. B. Cooke, Nashville. Executive Council, Drs. J. R. Pennington, Chicago, chairman; T. C. Martin, Cleveland, W. M. Beach, Pittsburg.

Time and place of meeting for 1906 were left to be determined by the council later.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Treatment of Dyspepsia of Functional Origin.

All cases of functional dyspepsia may be placed under two heads, according to Dr. Williams in the *Clinical Jour.*, London—those in which the hydrochloric acid is deficient and those in which it is excessive. The cause is the same in both, that is, the retention of food in the stomach long after that organ should have finished with it. The line of treatment which, if successful at all, is equally successful in both, is the practice of giving alkalies before meals. The author refutes the old theory that alkalies given before meals tend to increase the flow of gastric juice, and states that instead of promoting its flow the secretion of hydrochloric acid and pepsin is retarded by the use of alkalies before meals. He explains the action and efficacy of alkalies before meals in that they remove the sticky mucus which has been thrown out and which has occluded the secreting glands, and thus, after the fashion of lavage, they cleanse the stomach and permit it to get rid of the residue that has been left from the last meal and makes it a better receptacle for the next. Consequently, from this standpoint of reasoning, it matters not which of the forms of dyspepsia be present, because in both undesirable matters will be removed. If it is desirable to perform lavage in these cases it should be done with an alkaline solution containing 30 grains of sodium bicarbonate (2.00) to a half pint of water as hot as can be borne.

In one other respect, according to this author, is it unnecessary from the viewpoint of treatment to distinguish between these two forms of dyspepsia, and that is by promoting proper elimination by the bowels. Constipation will nullify every therapeutic effort. The best initial treatment is undoubtedly calomel, as it is both a purgative and an antiseptic. The skin must be properly cared for by hot baths or hot wet pack at the beginning of the treatment. In the further treatment of these two forms of dyspepsia it should be kept in mind that medicines given before meals have the effect of washing out the stomach but exercise no influence on the secretion of gastric juice or on the digestion of food. Therefore, to treat either form of dyspepsia effectually, it is necessary to rely absolutely on the action of the medicines administered after meals.

In the treatment of that form of dyspepsia accompanied by an excess of hydrochloric acid the first thing to be done is to *administer* a dose of calomel—remembering that brunettes bear this preparation better than blondes—order the patient a Turkish bath, an electric light bath or an ordinary hot bath, and instruct him to take some open-air exercise daily. Warn him against wearing wool or flannel next to the skin and insist on the proper mastication of the food. The great and urgent need in such a case is an antacid, to be taken either as soon as the symptoms appear or, if possible, immediately before their onset. The most efficient antacid is the bicarbonate of sodium which is a pure and simple antacid and possesses no sedative properties. It also tends to increase the amount of gas in the stomach, and this author, therefore, prefers some preparation which is free from this objection and which is at the same time possessed of sedative properties, and he regards bismuth as capable of meeting these requirements. *In answering the objections brought against this preparation* he states that the disappointment has been in not using it in sufficiently large doses. The minimum dose employed by Dr. Williams is 25 grains (1.65) of subnitrate of bismuth, or the liquor bismuth ammon. citras (B. P.) in 2-dram (8.00) doses. In the administration of either some sedative should be *combined* with it, such as cerium oxalate or with hydrocyanic acid as is contained in the syrup of wild cherry. The subnitrate may be given in the cachet form or suspended in a mixture. In the cachet form he combines it as follows:

℞.	Bismuthi subnit.	gr. xxv	1	65
	Cerii oxalatis	gr. x		65

M. Ft. cachet No. i. Sig.: Three times a day, as indicated, *after meals*.

In some cases the patient is gouty, under such circumstances 5 grains (.30) of pulverized resin of guaiac should be added to each cachet. Sodium bicarbonate may also be added. The subnitrate of bismuth should never be combined with the soda in a mixture, as decomposition takes place and carbon dioxid is evolved. If it is desirable, as stated, to give the bismuth in a liquid form, the following combination is recommended by the author:

℞.	Liq. bismuthi ammon. cit. (B. P.)			
	Syr. pruni virg., āā	ʒii	8	
	Aquæ q. s. ad	℥i	30	

M. Sig.: At one dose and repeated after meals.

The syrup of wild cherry is added for its sedative effect. In order to correct a gouty condition, if present, the tincture of *guaiac ammon.* dram one-half (2.00) may be added, which must be suspended in mucilage of acacia. Whether giving bismuth in liquid or in powder form, it must always be given after meals, and the length of time after the meal must depend on the size of the meal. A full meal will use up more of the acid secretion than a light meal, therefore, patients frequently suffer more after the light meal, as there is left more free *acid in the stomach. It* must also be remembered that the pain may not occur after a full meal, taken at night, until 4 or 5 o'clock in the morning. The sucking of alkaline lozenges is spoken of favorably on account of the combined action of the alkali and the antacid effect of the saliva. Sir William Roberts recommends the following combination:

℞. Trochisci bismuthi (B. P.)

Sig.: Two or three to be dissolved in the mouth after meals.

[The foregoing lozenge contains chalk, grains three and a half (.20), and magnesium carbonate, grains two and a half (.15).]

The source of the muriatic acid present is thought to be due to the sodium chlorid, therefore, these patients should be instructed *to* avoid salted meats and should cut down on the amount of sodium chlorid in the food generally.

To relieve the constipation the author recommends the following:

℞.	Sodii sulph	gr. xx	1	30
	Sodii bicarb	gr. x		65
	Essentiæ menth. pip	m. xx	1	30
	Inf. gent. co. q. s. ad	℥i	30	

M. Sig.: At one dose and repeat three times daily before meals.

The foregoing also serves as a proper cleanser of the stomach by dissolving the mucus present.

In the treatment of the asthenic form, in which there is a deficient *amount* of hydrochloric acid secreted by the stomach, the first *indication*, as stated by the author, is to supply the deficiency. Large doses must be given in order to supply this deficiency. The ordinary dose of minims 10 (.65) B. P. is not sufficiently large. The *author* employs as the minimum dose 25 *minims* (1.65) combined as follows:

℞.	Acidi *mur, dil*	m. xxv	2	65
	Liq. strychninæ, 1 per cent	m. v		30
	Glycerol. pepsini	ʒi	4	
	Aquæ menth, pip. q. s. ad	℥ss	15	

M. Sig.: At one dose, and repeated three times *a* day *after* food.

If necessary other *preparations may* be added as *may* be demanded, such as quinin hydrochlorate, liquor *ferri* chloridi, *morphin muriate* and liquor arsenicalis. In cases of long standing in which the element of irritation is present, the addition of 10 minims (.65) of liquor morphin hydrochlorate (B. P.) is of *great* value as it soothes the *mucosa* and enables it to tolerate the stimulating effects of the hydrochloric acid and strychnia, and in its *absence in some cases causes* the patient to complain of sufferings with each dose of the acid and strychnia on account of their stimulating effects. For the relief of the constipation, which is so constant in these cases, the use of the natural mineral waters is indicated. The presence of sodium chlorid is indicated in this form of dyspepsia.

The author is emphatic in saying that if the dyspepsia does not yield to one or the other of these *forms* of *treatment* then the assumption that the trouble is functional and not organic is incorrect.

Rhinitis in Infants.

The following outline of treatment, according to an abstract in *Med. News*, is recommended by M. Malherbe in the treatment of rhinitis in children: In the newborn, introduce by means of a syringe or a dropper a few drops of the following mixture:

℞.	Menthol	gr. v		30
	Olei olivæ ster.	ʒx	40	

M. Sig.: A few drops to be instilled into each naris. Or:

℞.	Menthol			
	Resorcin, āā	gr. v		30
	Olei *olivæ steril*	ʒx	40	

M. Sig.: *To be dropped into the nares.*

In older children emollient fumigations are of service or the following ointment:

℞.	Menthol			
	Salol, āā	*gr.* viii		*50*
	Cocainæ hydrochlor	*gr.* v		30
	Lanolini			
	Liq. petrolati, āā	℥ss	15	

M. Sig. To be *inserted* into the nares on a small swab.

With an *atomizer spray* the nose with the following:

℞.	Sodii bicarb.			
	Sodii biboratis, āā	gr. viii		50
	Aquæ dest	℥i	30	

M. Sig.: To be used in the form of a spray.

In smaller infants all carbolic solutions must be carefully avoided.

Medicolegal

Entitled to Rebuttal Physical Examination.—The Court of Civil Appeals of Texas says, in St. Louis Southwestern Railway Co. of Texas vs. Smith, a personal injury case brought by the latter party, that it is inclined to the opinion that if the plaintiff exhibited his eye to the jury, and his physician then and there undertook, while testifying, to point out the injury to his eye, the defendant company was entitled in rebuttal thereof to call medical experts of its own selection to in like manner examine the eye, and to give in testimony their opinion as a result of such examination.

Possession of X-Ray Machines—Defenses of Physicians.—The Supreme Court of Oregon says that in the malpractice case of Beadle vs. Paine, brought to recover for the alleged negligent treatment of a fractured arm, a physician was asked on his examination in chief if there was not an *x*-ray machine in the city where the treatment was given, to which he answered that a certain physician had one. To push the inquiry on cross-examination to the extent of ascertaining whether it was usual in that locality for every surgeon to have a machine of the kind, or whether the one possessed by the physician referred to was the only one to be found in that locality, the court says, was not without the scope of reasonable inquiry. It was germane to the subject entered on by the plaintiff and altogether relevant. It is a good defense in an action for malpractice, where the physician or suregon is charged with negligence or the non-observance of proper care or the want of skill in performing the services undertaken, the court says, that the patient was negligent at the time, which conduced or contributed to produce the injury complained of; but it will not suffice to defeat the action that the injured party was subsequently negligent, and thereby conduced to the aggravation of the injury primarily sustained at the hands of the physician or surgeon, and such conduct on the part of the patient is pertinent to be shown in mitigation of damages only where enhanced thereby, but not to relieve against the primary liability. Of course, if the patient refused or failed to follow the directions given him, he could not complain, the court says, if his negligence in that respect conduced to the injury. That is to say, if it prevented or retarded union or healing of the parts, for the directions were a part of the treatment prescribed, and a want of observance of them on the patient's part would defeat the action. The want of ordinary prudence on the part of the patient would be tantamount to negligence, and, if it was a contributing cause to the injury, the case would be within the rule.

A Certificate Indispensable.—The Court of Criminal Appeals of Texas says, in the case of Stone vs. State, where the plaintiff had a diploma from an institution in another state, that it appeared from a reading of Section 8 of the act of the Twenty-seventh Legislature, although one may have a diploma "issued by a *bona fide* medical college of respectable standing," still he must receive a certificate to practice medicine from one of the duly constituted boards of medical examiners of the State of Texas, which shall be recorded, before he would be authorized to practice. The court takes it, however, that it would not be necessary for the plaintiff to be examined by said board, if he had complied with the other provisions of the statute, to-wit, filed his diploma, with satisfactory evidence that his diploma was issued by a *bona fide* medical college of respectable standing, and certificate issued by the board, and properly recorded, as required by the statute. But he did not secure a certificate. Whether he should be examined or not was immaterial, in the absence of the certificate. It was true, the statement of facts showed that the board refused to examine him or issue a certificate. This was a matter that might be reached through the civil courts. But the certificate was the *sine qua non* to his practicing medicine. Having received no certificate, he could not practice. As to whether the board arbitrarily refused to examine him, or not, was a matter with which this court had nothing to do. If the board arbitrarily refused him a certificate, it was no defense to a prosecution for practicing medicine, since he must have the certificate from a board of medical examiners before he could practice. The court would not be understood as holding that he had not complied with the requirements of the statute in order to secure his license, but does hold that he had not secured the certificate to practice, and this must be done before he could practice medicine. Again, it says that it does hold that the act is constitutional, and that, if the boards of medical examiners had arbitrarily refused to give the plaintiff a certificate or license, still he must get such certificate from one of said boards before he could practice. Failing in this, he was subject to prosecution under the terms and conditions of the law. It was contended that the act was unconstitutional on account of giving preference to the allopathic, homeopathic and eclectic schools of medicine, to the exclusion of all other schools, but the court does not think it repugnant to the constitutional provision that "no preference shall ever be given by law to any schools of medicine."

Morphin Poisoning, Prescriptions and Substitutions.—Justice Gaynor, delivering the opinion of the Supreme Court of New York, Trial Term, Kings County, for the case of Laturen vs. Bolton Drug Co., says that the charge in the complaint was negligence by the defendant's pharmacist in filling a prescription of one Dr. Cruikshank for the plaintiff, by which she was poisoned by an overdose of morphin or opium, as was claimed. The prescription was: "Elixir Pinus Comp. cum heroin—ounces 4—M—'s. One teaspoonful in water every four hours." The pharmacist saw that it only called for a patent medicine and less than an original bottle. From a pamphlet he had he also found that M. put up "Elixir Pinus Compositus" in the same bottles with the same name on the label, but with the additional two words, "with Heroin," the pamphlet giving a formula showing that the proportion of heroin was 1/24 of a grain to the dram. The pharmacist therefore, in order to fill the requirement of the words "cum Heroin" in the prescription, added 1/24 of a grain of Heroin to the dose to the "Elixir Pinus Compositus," of which he had a bottle in stock. Justice Gaynor holds that there was plainly no negligence in this. But it appeared that the "Elixir Pinus Compositus," according to the printed formula, consisted of nine separate drugs, one of which was "morphin acetate, 1/16 gr.," while the "Elixir Pinus Compositus, with Heroin," omitted the morphin acetate. However, conceding that it was a negligent oversight of the pharmacist to add 1/24 grain of heroin to a dose containing 1/16 of a grain of morphin acetate. Justice Gaynor does not think that the plaintiff could have been poisoned by it. He says that it did not seem to him that there was any evidence on which the jury could be permitted to find that the plaintiff was poisoned by an overdose of morphin, and he therefore dismissed the case. It was not for the jury to guess; the fact had to be proved. Moreover, he believes that a court may take judicial notice of the scientific fact that 1/10 of a grain of morphin taken every four hours could not have poisoned the plaintiff. He says, too, that it was very evident that the names on the two bottles were, taken together, very misleading, and for this reason the prescription was negligent. It should have unmistakably distinguished between the two bottles since the names on their labels did not. Finally, Justice Gaynor says: "My attention is called to the fact that the doctor has published in a medical journal and otherwise the false and invented statement that it was decided in this case that a pharmacist may change a doctor's prescription, or substitute some other medicine than that it calls for, without liability. I regret to feel obliged to say that he is so well known in our courts, where he has been for many years connected with litigations of unsavory character, to say the least, that no notice needs to be taken of his false statement so far as the legal profession is concerned, and I understand that to be so of the medical profession also. But lest any drug clerk may be misled by such false statement to the danger of others, it seems proper that I say that not only was no such thing said or decided, but it was not presented or even mooted. Where would counsel be found to present and argue such an absurd proposition?"

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

June 24.

1 *Treatment of Inoperable Cases of Malignant Diseases of the Orbit by the X-ray. C. S. Bull, New York.
2 *Treatment of Renal Inadequacy Complicated by an Apparent Nephritis. W. J. Pulley, New York.
3 *Prophylaxis and Treatment of Pyosalpinx. J. N. West, New York.
4 *Formic Acid in Rheumatic Conditions. L. B. Couch, Nyack, N. Y.

1. **X-Ray in Malignant Disease of the Orbit.**—Bull is satisfied that the pain so constantly complained of by patients affected with malignant disease of the orbit has been speedily, sometimes immediately, removed by exposure to the *x*-rays, and that if this is repeated a number of times the pain does not return. In operable cases, whether from extensive spread of the disease or for other reasons, Bull recommends this treatment, because it relieves suffering and may prolong life. He has not observed any of the dangerous or evil effects of the *x*-rays in any of his own cases, such as infiltration and opacity of the cornea, optic neuritis, conjunctivitis and cellulitis of the eyelids. Bull presents detailed reports of ten cases from his own private practice in which the *x*-ray treatment was employed after excision by the knife. Of these ten cases, two were very much improved, if not apparently cured, and of these two one was an epithelioma and the other a carcinoma. The remaining eight cases in which no demonstrable effect was produced by the *x*-rays, were all sarcomata. In the two favorable cases showing entire disappearance of the growth under the influence of radiotherapy, Bull did not observe any evidence of the marked cachexia so frequently recorded in cases of malignant disease treated by this method.

2. **Treatment of Renal Inadequacy Complicated by Apparent Nephritis.**—Pulley draws a sharp line between true nephritis and functional inefficiency of the kidney dependent on other causes. Two instances of the latter and four cases of the former are cited in which improvement followed lavage of the pelvis of the kidney. He believes (1) that chronic nephritis is never cured by purely surgical procedures or any kind of local treatment; (2) that many symptoms of chronic nephritis which are due to an increase of internal pressure can be relieved by decapsulation; (3) that many so-called cases of chronic nephritis are simply mechanical interferences with the normal kidney function, and that the inflammatory process, if any, is of secondary importance; (4) that lavage of the kidney pelvis is limited in its good effects to two conditions only—pyelitis from any cause which affects the functions of the kidneys by increasing their internal pressure, and in parenchymatous and diffuse nephritis when there is a great deal of cellular débris, a concentrated urine, increased kidney pressure and tension of the capsules. Pulley says that the good results by pelvic lavage are obtained in pyelitis by clearing the pelvis and ureters of irritating substances, and in the parenchymatous and diffuse nephritis principally by reflexly influencing the blood supply of the kidney, accelerating the sluggish current, expelling the more or less stagnant blood, thereby bringing to the organ fresh blood, which, in turn, stimulates the kidney epithelia to more vigorous action, and reducing the internal kidney pressure and capsular tension, thus tending to re-establish the normal conditions. The treatment consisted simply in passing catheters, by means of the cystoscope, into each ureter once or twice a week, after which collecting about four c.c. of urine from each kidney for purposes of examination, then washing out the pelves with a warm aqueous solution of nitrate of silver of the strength of from 1 to 5,000 or 10,000. Further treatment was to cut off all proteids from the diet and to keep the patient at rest as far as possible. The only medication given was cathartic, when necessary, and Bashams' solution three times daily.

3. **Treatment of Pyosalpinx.**—West summarizes his paper as follows: 1. In all cases of abortion the patient should be operated on. 2. Gonorrheal invasions should be fought from their start to their finish. 3. The greatest possible aseptic precautions should be used whenever the uterus is entered either by instruments or fingers. 4. In all cases of pyosalpinx the patient should be operated on. 5. In certain cases, the patients may be relieved by a proper form of drainage. 6. An operator should not enter on a case with a fixed determination to do a radical operation. 7. The vaginal route is unsuitable for a radical operation. 8. Vaginal gauze drainage is the best and has its definite indications and use.

4. **Formic Acid in Rheumatic Conditions.**—As the result of four and one-half years of study and chemical analysis of the excretions in endeavoring to elucidate the cause of rheumatism, Couch states that all rheumatism, acute or chronic, muscular or articular, is due to self-generative systematic poison. This poison is chemical and not bacterial. It is a sub-oxidation product, but is not uric acid, which is a product and not the cause of rheumatic condition. Rheumatism is produced by fermentation. It is caused by carbonic acid gas generated in the stomach and bowels, and is due to drinking at meals and to washing the food into the stomach without proper mastication and thorough mixing with the saliva. He was led to study the action of formic acid in the treatment of rheumatic disorders by the experience of a farmer who was cured of the disease after being stung by bees. The histories are given of a number of cases in which remarkable results were obtained. Couch's directions for using the formic acid are as follows: 1. Always cleanse the parts thoroughly before injecting formic acid solution. 2. Never use a stronger solution than 3 per cent.; a 2.5 per cent. solution is better. 3. Never use it without injecting from 5 to 8 drops of a 1 per cent. solution of cocain or other local anesthetic as a preliminary to the formic-acid treatment. 4. Always choose extensor or outer parts of a limb for injecting the remedy and inject it just beneath the skin, though deep injections may be used when occasion demands. 5. Never use more than 8 drops in any one place of either cocain, 1 per cent. solution, or of the formic-acid solution. Use a similar amount of the cocain and of the formic-acid solution. 6. If large doses are used of formic-acid solutions, hard, painful lumps are formed which are slow of absorption and painful; whereas if smaller doses are used no destruction of tissue results and no painful growths supervene. 7. Inject the most painful points and make the injections not less than two inches apart. 8. Couch never has used more than 30 injections at a time, and it is far better to use only from 12 to 15 and to repeat the following day in another place. Avoid all nerve trunks, if possible, since injections involving nerves are apt to be followed by severe pains lasting twenty-four hours. Injections may be given every day, or every other day, till the pain has ceased. It will not be apt to return unless gross carelessness or wilful disregard of plain directions exist.

American Medicine, Philadelphia.

June 24.

5 *Bromids in Epilepsy. F. Peterson, New York.
6 *Practical Points Concerning the Technic of Colostomy. S. G. Gant, New York.
7 *Treatment of Incontinence of Urine in Children. N. P. Barnes, Washington, D. C.
8 *Treatment of Appendicitis in the Precarious Stage. J. G. Sheldon, Telluride, Colo.
9 *Therapeutic Value of Ergot in Labor. J. C. Applegate, Philadelphia.
10 *Gunshot Wounds of the Stomach: Report of Two Cases. W. M. Jordan, Birmingham, Ala.

5. **Bromids in Epilepsy.**—Peterson's object in bringing this subject before the profession is to rouse a general antipathy to the indiscriminate use of this drug in epilepsy. He believes that, as a rule, this drug is worse than the disease. The sum total of comfort, happiness and well being of the epileptic would have been greater if the bromids had never been discovered. When the drug is to be employed, it should be used in small doses, combined with some of the harmless remedial agents, like antipyrin and horse nettle, or prescribe, instead of the bromin salts, some preparation of brominized oil, which is less powerful and less noxious.

6. **Technic of Colostomy.**—Gant says that it is not important to select a definite point for the incision, provided it is made below the umbilical level and between the outer edge of the rectus muscle and at least an inch internal to the anterior superior spine of the ileum. Neither is it important that the peritoneum be attached to the skin, since a quick and firm union takes place between the gut and abdominal parts. In cases of elongated mesentery, it is best to amputate several inches of the gut to avoid subsequent prolapse, and it should be removed in from three to seven days after its attachment to the skin, except in cases of complete obstruction, when the intestine should be opened immediately. Artificial ani are closed by the aid of the Gant fenestrated clamp. One blade is placed in each opening and pushed down sufficiently to in-

clude the entire spur when it is released. The clamp divides the spur in from four to seven days; the abdominal edges about the opening are then freshened and sutured under local anesthesia.

7. **Treatment of Incontinence of Urine in Children.**—Barnes says that successful treatment is determined by etiologic factors. Close attention must be given to diet, hygiene, habit and training. Medical, mechanical, and mental treatment are discussed.

8. **Treatment of Appendicitis in Precarious Stage.**—Sheldon believes that operation, not through an interior incision, but through Pettit's triangle, should be the method of choice in treating appendicitis in which the inflammatory process has invaded structures beyond the appendix and is not localized. This operation offers little risk of contaminating the small intestine; it provides efficient drainage, and is not liable to be followed by hernia.

9. **Therapeutic Value of Ergot in Labor.**—Applegate does not regard ergot as an appropriate or safe remedy at any period during labor until the presentation or expulsion of the placenta. He regards ergot as a safeguard and valuable at the end of the third stage of delayed labor or when uterine inertia has been a factor, also after placenta prævia and reposition of an inverted uterus. With a uterus normally contracted, he considers it valueless and rather detrimental when used for the prevention of septic infection, since its tendency is to disturb the venous thrombi and to lock too completely within the uterus excreta that would otherwise be liberated. For the control of hemorrhage, better results are obtained by hypodermic administration.

10. **Gunshot Wounds of Stomach.**—Jordan advocates immediate operation in cases of suspected wound of the stomach. If the stomach is full at the time of operation, he advises syphoning its contents by means of a tube passed through the bullet wound. For closing the perforations, he recommends a purse-string suture of silk, which is reinforced by a second one in order to add strength as well as to increase the approximated area. Nothing whatever should be given by the mouth during the first week, the patient being sustained by nutrient enemas, and water being given by subcutaneous and rectal injections of normal salt solution. Morphin is given for a few days to limit peristalsis and check gastric secretion. A wound of the posterior surface of the stomach constitutes a positive indication for drainage of the lesser cavity of the peritoneum, the presence of such a wound being taken as presumptive evidence of injury to the underlying pancreas or left kidney. Two cases are reported, the first having a single perforation on the anterior surface, with subsequent recovery, and the second presenting two perforations on the anterior surface; death from shock occurred four hours after operation.

New York Medical Journal.

June 24.

11 *Two Cases of Rare Congenital Malformation. H. Fischer, New York.
12 *Demonstration of Flagella of Motile Bacteria and a Simple Method of Making Photomicrographs. E. W. Duckwall, Pittsburg, Pa.
13 Clinical Experience with Antitoxin and the Advantages of Large Doses. L. Fischer, New York.
14 Treatment of Disease with the Roentgen Rays. W. P. Goff. Clarksburg, W. Va.
15 *Anesthesia in Throat Surgery. H. Wallace, Glen Ridge, N. J.

11. **Rare Congenital Malformation.**—The two cases reported by Fischer are a case of meningoencephalocele of unusual size and one of perobranchius and perodactylism.

12. **Demonstration of Flagella of Motile Bacteria.**—The fixing agent used by Duckwall is mordant, and the stain is carbol-gentian-violet or preferably carbol-fuchsin. The mordant requires for its preparation 2 grams of desiccated tannic acid, 5 grams of cold, saturated solution ferrous sulphate (aqueous), 15 c.c. of distilled water, and 1 c.c. of saturated alcoholic solution of fuchsin. The tannic acid is dissolved in the water first by the application of gentle heat; then the ferrous sulphate and then the alcoholic solution of fuchsin are added. To these ingredients, Duckwall adds a certain amount of sodium hydroxid, a 1 per cent. solution, varying from 0.5 to 1 c.c. The best grade of filter paper is used for filtering the mordant, and there should be left a heavy precipitate. After filtering, the color of the preparation should be of a reddish-brown hue, not clear, but somewhat cloudy, and this mordant must be used within five hours after it is made; after that time it loses its staining power. This is indicated by its gradual clarification and darkened color. It gives the best results when strictly fresh and accomplishes its work in a much shorter time, so that very little, if any, heating is required when it is placed on the coverglass preparation. Carbol-fuchsin: Take about 1 gram of granulated fuchsin (not the acid fuchsin), put it in a bottle, and pour over it about 25 c.c. of warm, absolute alcohol. Shake vigorously and let it stand for several hours before using. The carbol-fuchsin is made by diluting the saturated alcoholic solution four or five times with a 5 per cent. solution of carbolic acid. Carbol-fuchsin should be freshly made, heated and filtered before using. A small loop, full of sterile water containing the bacterium, is transferred to the coverglass and gently spread over as large a surface as possible. Carry the drop around the surface without touching the glass with the loop. In this way the surface is moistened, and the loop does not tear off the flagella. The spreading must be done rapidly, because evaporation takes place very soon. After evaporation takes place, there should appear very thin films along the track of the loop. The fixing must not be accompanied by too much heating, because the delicate organs of locomotion are easily burned off. The mordant is poured on, just enough to cover the surface without flowing over the edges. During the steaming of the mordant, it is advisable to keep up a rotary motion in order to avoid too much precipitation. When the mordant is fresh, it requires only from one-half to one minute to get sufficient staining. The mordant is completely washed off under the tap, and a small quantity of absolute alcohol is poured on the surface and instantly washed off. If the alcohol is thoroughly washed off, the water is removed by holding the glass edgeways to a piece of filter paper. Then cover the surface with carbol-fuchsin or carbol-gentian-violet. Allow the fuchsin to stand on the coverglass for about one-half minute, being heated just sufficiently for a thin vapor to be visible; then heat it so that steam is given off quite freely, but never until ebullition takes place. Care must be used when heating the stain, because it is not unusual to find that there is entirely too much precipitation and that the flagella are burned off. Clear with xylol and mount in xylol balsam immediately after staining. The culture used must be made on 2 per cent. agar from young growth in bouillon.

15. **Anesthesia in Throat Surgery.**—Wallace says that for the operator of average skill, the gas-ether sequence, with narcosis pushed well to palatal relaxation, the patient being in the dorsal position, with moderately lowered head, secures the best results as regards least danger to the patient and the greatest facility of operative technic.

Boston Medical and Surgical Journal.

June 22.

16 *Eyestrain. Its Importance and Its Limitations. G. L. Walton, Boston.
17 *Preservation of the Urine. J. B. Ogden, New York.
18 Impetigo [illegible] ous Abscesses Caused by Pyogenic [illegible] T. Bowen, Boston.
19 Scabies. [illegible]
20 Vegetabl [illegible] in and Modern Methods of Culture. [illegible]
21 Use of X [illegible] ffections. F. S. Burns, Boston.

16. **Importance and Limitations of Eye Strain.**—By way of establishing a control, Walton has questioned, regarding headache, 100 healthy individuals with sight, and 42 patients were examined who were either partially blind (whether the blindness was acquired or congenital), or who suffered from acquired blindness coming on at an age after the habit of fixation and convergence was well established. The third class examined contained individuals totally blind since infancy. From a study of these cases, Walton draws the following conclusions:

1. Among individuals totally blind since infancy, 66 per cent. were free from tendency to headache, as contrasted with 31 per cent. of those having sight, and 29 per cent. of those with partial or with acquired blindness.

2. If these figures should prove constant the inference would seem justifiable that half the headaches in health are due to eyestrain. 3. The headache, when present among those totally blind since infancy, partook sufficiently often of the migranoid character to preclude the supposition that all migraine is due to eyestrain. 4. The results of this study would indicate that while migraine and migrainoid headaches have a constitutional basis, and while other factors than eyestrain may act as exciting causes, still eyestrain is one of the most, if not the most, important of these exciting causes, and steps for its relief are imperative.

5. In no case has correction of refraction been given a thorough trial until (a) the glasses are properly centered, (b) their continued readjustment is practiced, (c) the patient looks as much as possible through their centers instead of from side to side, (d) efforts are avoided at straining the eyes to see distant objects with the glasses, (e) spectacles instead of eyeglasses are used, and (f) the use of spectacles is constant, not intermittent.

6 The constitutional headache of the deviate is probably allied to the headache of "brain fag," but is out of all proportion to the sources of fag. Little can here be expected of spectacles.

7. In the proportion in which obsessive tendencies and other signs of constitutional peculiarity accompany errors of refraction, efforts at the correction of refraction will prove unavailing for the relief of nervous symptoms.

17. **Preservation of Urine.**—Ogden's paper is based on 140 experiments with various preservatives, in urines of varying composition: (1) Those with a normal, a high, and a low specific gravity; (2) those with albumin and without albumin; (3) those with sugar and free from sugar; (4) those with a variety of casts and without casts; (5) those containing pus and blood, and (6) those containing crystalline elements. Each experiment was accompanied by a control of the same urine. The control and preserved specimens were allowed to stand in stoppered bottles at room temperature until they had either undergone ammoniacal decomposition or become so changed by the presence of bacteria or deposits that chemical tests could not be satisfactorily applied or the elements in the sediment detected. The susbtances used were boracic acid, formaldehyd, salicylic acid, benzoic acid, corrosive sublimate, chloroform, chloral, camphor, and thymol. Ogden found boracic acid to be the most practical urinary preservative, when used in the proportion of five grains to four ounces of urine. Formaldehyd solution should be used only by the physician or a responsible person. One drop will preserve a pint of urine for about a week. One drop can be used in four ounces of urine without harm.

Medical News, New York.

June 24.

22 Education Within the Medical Profession. P. A. Morrow, New York.
23 Best Way to Treat the Social Evil. H. A. Kelly, Baltimore, Md.
24 Prophylactic Value of Normal Marriage. A. H. Smith, New York.
25 Need of Sexual Education. E. L. Keyes, Jr., New York.
26 Report of Gall Bladder Surgery, with Especial Reference to Early Diagnosis and Early Operative Interference in Cholecystectomies. (Continued.) F. Martin, Baltimore, Md.

Lancet-Clinic, Cincinnati, Ohio.

June 24.

27 *Pathology of External Piles. L. J. Krouse, Cincinnati.
28 Mesenteric Cysts. O. G. Pfaff, Indianapolis, Ind.

27. **Pathology of External Piles.**—From observation and investigation, Krouse concludes as follows: First, that the walls of the hemorrhoidal veins must undergo some pathologic alterations before an external hemorrhoid can develop; second, that these pathologic changes being present, any undue pressure may cause an aneurismal dilatation of the vein; third, that the internal coat of the vessel being altered, there is more tendency for coagulation of blood with the formation of a clot; fourth, the sexual activity of an individual increases the intravenous pressure and favors the development of the sanguineous tumor. It is, therefore, a disease of adult life; fifth, that the clot is always found in the diseased vessel and never in the connective tissue outside of the vessel.

St. Louis Medical Review.

June 17.

29 *Appendicitis in Its Relation to Pregnancy. H. C. Coe, New York.
30 *Sudden Death During or Immediately After the Termination of Pregnancy or Operation on the Pelvic Organs in Women. E. P. Davis, Philadelphia.
31 Rupture of the Gall Bladder (Spontaneous and Traumatic, with and without operation), an Historical Review of 273 Cases. B. M. Ricketts, Cincinnati, Ohio.

29.—See abstract in The Journal, June 10, 1905, page 1878.

30.—See abstract in The Journal, June 17, 1905, page 1957.

The Post-Graduate, New York.

May.

32 Comparative Anatomy of the Anterior Cerebral Artery. W. W. Lesem.
33 Case of Cortical Cerebral Arteriosclerosis with Distinct Focal Symptoms. J. Collins.
34 *Exophthalmic Goiter. J. Collins and F. Robbins.
35 *Hereditary Progressive Muscular Atrophy, Spinal and Bulbar. J. Collins.
36 *Case of Myotonia. J. Collins.
37 Facial Hemiatrophy. J. Collins.
38 Trigeminal Neuralgia. E. G. Zabriskie.
39 Paralysis of the Left Platysma. E. G. Zabriskie.
40 Some of the Changes Found in the Cord After Amputation. E. G. Zabriskie.
41 Commoner Varieties of Alcoholic Insanity. J. Collins.
42 Report of Neurological Clinic of Professor Collins. H. Hoefle.

34. **Exophthalmic Goiter.**—Collins and Robbins present a brief historical review of exophthalmic goiter and a résumé of theories concerning its etiology, with deductions based on the observation and study of 100 consecutive cases.

35. **Hereditary Progressive Muscular Atrophy.**—Collins records the history of a girl, aged 13, in whose ancestory a similar disease was seen extending through several generations. In five generations, ten individuals have been afflicted. The disease developed at any age, and the beginning symptoms indicate an involvement of the spinal cord in one case, and of the medulla oblongata in another, but the latter was eventually affected in all of them.

36. **Myotonia.**—The case of myotonia reported by Collins differs in every particular from previously reported cases. There was no history of a similar disorder in the patient's family; the myotonia occurred only on purposeful movements and tended to increase so long as these movements were kept up, and there is an absence of the myotonic reaction, although what it has in common with congenital myotonia is the hypertrophy of the muscles and the absence of symptoms pointing to gross disease of the nervous system. When the patient first came under his observation, Collins was inclined to look on it as an intention spasm of the nature of an occupation neurosis, but the continuance of it, now about five years, its gradual increase in severity, the absence of an adequate cause, and associated symptoms, lead him to disregard that diagnosis.

Bulletin of the Johns Hopkins Hospital, Baltimore.

May.

43 *Hyperplasia of the Chromophile Cells of the Hypophysis as the Cause of Acromegaly, with Report of a Case. D. D. Lewis.
44 History of the Circulation of the Blood. Contributions of the Italian Anatomists and Physiologists—their Bearing on the Discovery by Harvey. J. C. Hemmeter.
45 Comparative Surgery. C. M. Faris, H. C. Tracher, and others, and an Introduction by Harvey Cushing.
46 Two Cases of Hemorrhagic Cyst of the Thyroid Gland. C. M. Faris.
47 Report of Two Cases of Uterovaginal Prolapse. H. C. Thacher.
48 Report of Eight Cases of Canine Neoplasm. J. F. Ortschild.
49 Cases of Hernia in Dogs. F. C. Beall.

43. **Cause of Acromegaly.**—Lewis' case is noteworthy in that it came to autopsy at an unusually early stage of the disease, the usual clinical course of a benign or chronic case having been interrupted by death due to cerebral embolism and secondary hemorrhage. The hypophysis appeared normal on gross examination, but microscopic examination revealed a high hyperplasia, especially of the chromophile cells, which is confirmation of the theory that acromegaly is caused by excessive function of the glandular elements of the anterior lobe of the hypophysis.

Denver Medical Times.

May.

50 *Intracerebral Injections of Antitetanic Serum in Trau- [illegible] Hopkins, Denver, Colo.
51 [illegible] Abscess, of Twenty-six Years' [illegible] a Clinical Picture of Addison's Dis- [illegible] Denver, Colo.
52 A [illegible] Report. R. C. Coffey, Portland, Ore.
53 T [illegible] Diseases in Children. D. T. [illegible] aska.
54 N [illegible] osis and Management of Labor.

50. Intracerebral Injections of Antitetanic Serum.—In the three cases of traumatic tetanus reported by Hopkins, a small trephine opening was made in the right frontal bone half way between the outer angle of the orbit and a point on the vertix at the juncture of the line crossing between the two auditory canals. A small slit was made in the membranes and the needle introduced two inches into the substance of the frontal lobe of the brain, this lobe being selected for the injection because the patients were right-handed. The needle is directed forward and slightly downward. In three cases 20 c.c. were injected into the cerebral substance at once, and Hopkins believes that the success of this method of treatment depends on the use of large quantities of the serum. The serum treatment was followed up with sodium bromid and chloral hydrate, given by enema, at varying intervals, for several days, and then small doses by mouth, a sufficient quantity being used to keep the patient asleep most of the time.

Journal of Cutaneous Diseases, New York.

May.

55 *Effect of the Roentgen Ray on Paget's Disease of the Gluteal Region. J. A. Fordyce, New York.
56 *Staphylococcic Infection of the Tonsil Simulating a Chancre. D. W. Montgomery, San Francisco.
57 Mulberry-Colored Spots on the Skin of the Lower Spine of Japanese and Other Dark Races: A Sign of Negro Descent. A. S. Ashmead, New York.

55. Roentgen Ray in Paget's Disease.—Fordyce reports the case of a woman 60 years old who received an injury on the left gluteal region, at which site there developed, about a year later, a dark red spot which slowly increased in size, at times was somewhat painful, but never gave rise to a discharge which was at all pronounced. In its color, general and microscopic appearance, and slow eccentric progression, it was strikingly similar to the usual type of Paget's disease of the nipple. The center of the lesion showed the structure of a small-celled epithelioma of the rodent ulcer type. The patient received ten *x*-ray exposures at intervals of a week, each averaging about ten minutes. The target was held at a distance of from four to six inches from the affected area. A pronounced reaction was observed after six or seven sittings. The lesion apparently became much larger, was painful, discharged pus freely, and apparently extended at the margins. The use of the *x*-ray was discontinued under the impression that it was doing harm. After a week or two the discharging surface healed rapidly under local treatment, and after a month, the sore had completely cicatrized, leaving a smooth scar. An examination of the patient twelve months after the cessation of all treatments showed no evidence of a recurrence. Fordyce concludes that until the ultimate cause of Paget's disease is revealed, cases similar to the one reported must be classed as of doubtful nature or as transitional forms between some of the less common types of superficial epitheliomas and the well-known pre-cancerous condition of the breast.

56. Staphylococcic Infection of Tonsil.—Montgomery describes the appearance of the tonsil as follows: "There was a circular 'crateriform' ulcer, or what appeared to be an ulcer, the size of a nickel on the left tonsil. The floor of this ulcer had a yellow covering and its edges were rounded and raised. The left anterior pillar of the fauces was bulged forward, rounded and smooth, and of a deep red color. There was a small extension of the ulcer downward, but its general outline was circular. On looking into the mouth, the observer looked right straight down on the floor of the ulcer, and it gave the impression of being a chancre. On palpating the sore, it was not found to be very hard, only fairly firm. The ulcer was not painful, but the patient expectorated a good deal, and it evidently irritated him. There was one enlarged lymphatic nodule behind the left ramus of the jaw, which was smooth and firm, but not hard. This lymphatic nodule was tender, and there was also some pain and discomfort on the left side of the neck from the ear downward, which had been present for several days. The left epitrochlear lymphatic nodule was enlarged, but soft. The only micro-organisms found were staphylococci. There was no fever, and the patient had good general health. Such history as was given was corroborative of the view that the lesion was a chancre, or at least syphilitic. Against this was the fact that there were no concomitant symptoms. The present case reversed the usual errors, and was a comparatively insignificant affection, that bore a striking resemblance to a chancre, and was thought by well-trained men to be either a chancre or an epithelioma, a mistake that was not the result of ignorance, as the clinical type here represented is very rarely seen, and no one, on first seeing it, could be blamed for not recognizing its true character, that of a staphylococcic infection of the tonsil.

Archives of Pediatrics, New York.

May.

58 *Congenital Tuberculosis. M. Wollstein, New York.
59 Intrauterine Amputations and Amniotic Bands. W. L. Stowell, New York.
60 Gonococci Infection of the Eye in Infants. J. E. Weeks.

58. Congenital Tuberculosis.—Wollstein reports the pathologic findings in a case of advanced tuberculosis, the patient dying six days after the birth of the child, in the eighth month of pregnancy. Considering the advanced stage of the tuberculous lesion in the endometrium, Wollstein assumes that the basal decidua was first affected, the tubercle bacilli traveling from the decidual sinuses to the covering of the villi, localizing there and causing thrombi in the adjacent intervillous spaces, with destruction of the syncytium, entering the villous stroma, and finally reaching the chorionic villi. Thus all four varieties of placental tuberculosis are illustrated in this case. That the fetus was infected comparatively late (just before birth) might be argued from the early stage of the tubercles in the child, which had lived for nineteen days.

Colorado Medicine, Denver.

May.

61 Use of the Anesthetic Somnoforme. W. L. Hess, Denver.
62 Mastoid Operation—Reported Cases. R. G. Davenport, Trinidad.
63 Operative Cases of Converging Strabismus, with Photographic Illustrations. W. C. Bane, Denver.
64 *Advantages of a Simple Surgical Equipment and Technic. H. C. Wetherill, Denver.

64. Simple Equipment and Technic.—Wetherill says that the essentials of a good operating room and equipment are simplicity and facility for scrupulous cleanliness. The room should be flooded with a soft, diffuse light; it should be well warmed, well ventilated, without draughts, and not too large. The equipment should be simple and readily cleaned, and the basins or sinks accessible for disinfection of sterilization of every part. Plain white enameled sinks with portable basins are clean, are easily washed and boiled, and promote the free use of soap and water. The armamentarium should be simple and easily sterilized. It promotes rapidity and dexterity, and materially lessens the risk of contact infections. The suture and ligature material must also be simple in its preparation, and soft and strong and of no greater caliber than is absolutely necessary, particularly if it be of silk or catgut. The sterilization of the hands of the operator and his assistants, and of the skin of the patient should be as simple as possible, compatible with safety. Wetherill's method consists in a thorough scrubbing with soap and hot water for twenty minutes or more, rinsing in a 1 per cent. formaldehyd solution, and washing with 95 per cent. of alcohol. In the performance of round ligament or hernia operations and in certain celiotomies, he uses rubber gloves. The soap Wetherill uses is easily made, is inexpensive and is an excellent cleanser. It leaves the hands soft and smooth. It is called the Denver Woman's Hospital Soap, and is made as follows: Life Buoy Soap, 2 bars; water 2 quarts; turpentine, 4 ounces; alcohol, 8 ounces. Cut the soap into fine shavings and boil with water until it is dissolved. When cool, add the turpentine and alcohol and shake well in a jar or flask. The turpentine and alcohol dissolve the fats and empty the pores, and if very hot water is used, so that the hands and arms are made to perspire, and the water is frequently changed, the sweat glands are stimulated and the germs are washed out of their mouths. The elaborate preliminary preparation of the patient also is unnecessary. Purging is also injurious and ordinarily quite unnecessary. Instead of stimulating peristalsis, aim to promote peristaltic arrest by prohibiting food and drink and administering opium or morphin, if absolutely necessary, to encourage these conservative agents, as well as for the relief of the pain which the inflammatory reaction produces. The number of assistants should be limited to those actually indispensable, and irrigation and drainage should be restricted.

Journal of Nervous and Mental Diseases, New York.

May.

65 Arteriosclerosis in Its Relation to Diseases of the Nervous System. E. D. Fisher and H. Brooks.
66 Treatment of Cerebral Palsies and Athetosis by Nerve Anastomosis and Transplantation. W. G. Spiller and C. H. Frazier.
67 Location Within the Spinal Cord of the Fibers for Temperature and Pain Sensations. W. G. Spiller.
68 *Curability of Epilepsy. J. W. Wherry.

68. **Curability of Epilepsy.**—Wherry is of the opinion that the ideal treatment of epilepsy is practically impossible under ordinary circumstances. The tendency of modern medicine is to systematize and to classify, and then to formulate a general treatment which is to apply to all cases of each class. The individual is frequently forgotten and always overlooked. When a patient fails to respond to the prescribed drug, he is said to possess an idiosyncrasy. The study of epilepsy must be individual in its character, because the fundamental element of the disease is its individuality. Each patient is a case in himself, and no two patients can be treated successfully from the same formula. One of the chief characteristics of the epileptic is his mental, moral and physical instability, and this feature must receive serious consideration, if a recovery is hoped for. The convulsion is not all there is to epilepsy. To suppress the convulsion with drugs is accomplishing not real good, if the patient is to become an imbecile or a dement as a result. The treatment of epilepsy must embrace the whole individual, mentally, morally and physically. Wherry suggests as the treatment of epilepsy: A study of each case individually; special adaptation of drugs to individual conditions; personal supervision and individualization of diet; absolute change of environment. The treatment must not be postponed until the disease becomes well established. Epilepsy, instead of being an incurable disease, under the most favorable circumstances, has shown a schedule of recoveries in excess of some other diseases, and which in the future will be made much larger.

Annals of Ophthalmology, St. Louis.

April.

69 *Conjunctivitis Petrificans. W. C. Posey, Philadelphia.
70 Gonorrheal Ophthalmia—with Involvement of the Anterior Ethmoidal Cells; Report of a Case. G. F. Suker, Akron, Ohio.
71 Unusual Effects of Iodid of Potassium. H. Gifford, Omaha, Neb.
72 Latent Hypermetropia, the Cause of the Difficulties Attending Refraction Work. L. S. Dixon, Boston.
73 Case of Adenoma of the Meibomian Glands. G. Pause.
74 *Treatment of Infection After Cataract Extraction. H. F. Hansell, Philadelphia.
75 Extirpation of the Superior Cervical E. Gasparrini, Torino, Italy.
76 Sympathetic Ophthalmia. C. Schulin, Billings, Mont.
77 Injury Resulting in Cutting of the External Rectus Muscle, and Probably Laceration of the Optic Nerve. F. Vinsonhaler, Little Rock, Ark.
78 Practical Application and the Relative Value of the Tests Used in Examining the Eye Muscles. A. Duane, New York City.
79 Contribution to Serum Therapy, Especially of Ulcus Cornea. L. Paul, Breslau.
80 Facts Versus Fancies Concerning Heterophoria. F. C. Hotz, Chicago.

69. **Conjunctivitis Petrificans.**—Posey's case, a female, aged 30, presented irregular opaque areas situated in the conjunctiva under the epithelium and projecting but little above the surface. There were but few symptoms of irritation, and these were scanty secretion, with a tendency to spontaneous disappearance without leaving any trace in the early stages. The treatment consisted in carefully dissecting out many of the chalky areas, in the employment of a boracic wash and of a solution of atropin.

74. **Infection After Cataract Extraction.**—Hansell discusses this subject under the heads of precautionary treatment; preventive measures, such as exclusion of conjunctival and lachrymal disease; the exclusion of sources of endogenous infection, and the preparation for operation. Besides the local treatment, he urges stimulating and supporting constitutional treatment.

Archives of Ophthalmology, New York.

May.

81 Amaurosis from Filix Mas. Dr. Stuelp.
82 I During Fetal Life as the Cause of nophthalmos. Prof. Hoppe, Cologne.
83 *T for the Treatment of Trichiasis, and the Operation. P. Briganti, New York.
84 Case of Cysts of the Pars Iridica Retinæ. E. L. Oatman, Brooklyn, N. Y.
85 Anomalies of the Vascular System of the Optic Papilla, C. J. Kipp, Newark, N. J.
86 Pathological Anatomy of Glaucoma. W. Dolganoff, St. Petersburg.
87 Accessory Apparatus for Locating Foreign Bodies in the Eye and Orbit. G. L. Dixon, New York.

83. **Treatment of Trichiasis.**—In order to remedy certain defects and to make the operation easier to perform, Briganti has devised a change in the technic of the so-called Italian method, adopting new instruments, and also a modification of the method itself, which, while insuring a fresh bleeding surface for the flap in its whole length, avoids the cutting of the hairy border. The instruments devised are two: One is called the marginal forceps, the other, the flap forceps. The former are made right and left, and are intended for the marginal incision. They are like thick forceps up to the elbow, at which point they form an angle of about 125 degrees. The flap forceps carry on one branch a small oblong plate, which is slightly curved from side to side to adapt itself to the curvature of the lid. The other branch, in one model, terminates in a narrow piece attached at its middle and shaped to follow the outline of the margin of the lid. The other model resembles closely Desmarre's entropion forceps, except in the curvature of the flap guide. The plate of the flap forceps is placed beneath the margin, and the screw arrangement tightened. The surgeon then makes incisions on the integument covering the lid along the margins and on the guide of the narrow piece, being careful that the resulting skin flap is attached at its extremities. The instrument is now removed and the lower incision completed in the middle. Both marginal and flap forceps, when properly placed and fixed, exercise sufficient pressure to prevent hemorrhage, thus shortening considerably the time of the operation. The flap is now very carefully dissected and deprived, as far as possible, of superfluous subcutaneous connective tissue. The marginal incision must be about 3 mm. deep, the deeper the better, as the flap will attach much easier. The section is made between two imaginary lines, one represented by the excretary ducts of the Meibomian glands, the other by the lashes. As soon as the flap is ready to be placed in position, the marginal cut is freshened, so as to bleed, and completed by prolonging it at each end, in order to connect it with the skin wound resulting from the detaching of the flap. The prolongation of the incision toward the inner canthus is made in that part of the margin normally deprived of lashes, and must follow a straight line as much as possible. Sometimes it is a necessity to cut off a very thin strip of marginal tissue, which is replaced by the flap, so as to insure an even surface after the attaching. The prolongation outward is made as close as possible to the outer canthus and also as nearly straight as possible; the prolonged marginal section at either end meets the apex of the skin wound at a very small angle. The flap is allowed to lie on the resulting continuous, bleeding surface, and the ciliary border of the lid is practically displaced upward and rotated outward as far as the thickness of the flap. This done, the skin wound is sutured and a vaselin dressing applied, care being taken in separating the margins of the lids by using a thin cotton pad saturated with vaselin. The dressing is repeated every day for a week or so, and removed as soon as the healing of the wound is assured.

Journal Missouri State Medical Association, St. Louis.

May.

88 Etiology and Treatment of Eclampsia. H. Schwarz, St. Louis.
89 *New Hemorrhoidal Clamp Permitting Suture of Seared Surface Before Removal of Instrument. R. F. Amyx, St. Louis.
90 Value of Getting Certain Patients Up Very Early After Laparotomy. W. Bartlett, St. Louis.

91 Strangulated Umbilical Hernia in which Cecum, Appendix, Ascending and Transverse Colon Were Found Gangrenous in Sac—Artificial Anus made at Primary Operation, Followed Ten Weeks Later by Double Resection to Restore Intestinal Continuity. J. Y. Brown, St. Louis.
92 Certified Milk in St. Louis—Rules and Regulations Governing the Production and Distribution of Certified Milk in St. Louis Under the Auspices of the St. Louis Pure Milk Commission.

89. **New Hemorrhoidal Clamp.**—Amy has endeavored to add to the ordinary clamp in common use an auxiliary which, he believes, possesses sufficient advantages to warrant its use in all operations on hemorrhoid. Two flat pieces of metal are welded on the upper surface of any ordinary clamp, each half corresponding to the blades of the clamp. The surfaces of the pieces of metal are furrowed at intervals of one-fourth of an inch across each blade of the clamp, and extending the entire length of the blades of the clamp. These furrows, when the clamp is closed, come together and form furrows extending across the face of the clamp, each furrow being one-half inch in length and one-eighth of an inch in depth, and extends down to the original biting portion of the clamp. The sutures can be applied very easily with a small curved needle. It can be either a continuous or an interrupted suture, and should be applied before removing the clamp. The curved needle carrying the suture should be passed down into each furrow, and should be kept in contact with the bottom of the furrow, so that the suture will enclose sufficient tissue in order not to cut through. With this device, the clamp and cauterized surface are securely fixed together, so that early hemorrhage does not occur; it gives a better opportunity for early union, so that separation of the clamped portion will not follow; ulcerative processes do not follow, and the possibility of late hemorrhage is limited. The clamp affords all the advantages of any now in use.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

June 10

1 Errors of Diagnosis in Medicine. J. R. Bradford.
2 Micro-organisms of Meat Poisoning and Their Allies. H. de R. Morgan.
3 *[illegible] E. J. McWeeney.
4 [illegible]les of Ice. V. G. L. Fielden.
5 *[illegible] Phthisis. W. S. Paget-Tomlinson.
6 *[illegible] J. S. Bolton.

3. **Spirochetes in Syphilis.**—McWeeney was able to demonstrate spirochetes in nine cases of undoubted syphilis in the primary and secondary stages. In a case of advanced tertiary ulceration of the palate he failed to find them, and also failed in a case of mucopurulent vaginitis, unaccompanied by ulceration and considered not to be of a syphilitic nature. The method of examination was that employed by Schaudinn. The organisms found are described as follows:

> Spirally twisted, extremely delicate [illegible]
> with peculiar corkscrew movement in [illegible]
> from 7 to about 18 microns, averaging [illegible]
> ness too small to measure. Some were [illegible]
> others, more especially the longer on[illegible]
> in the middle, and tapered, slowly at first, afterward more rapidly, toward the ends. The coils were often seven or eight in *number*, not regularly spiral, more open, toward the extremities, sometimes nearly effaced. The smaller spirochetes looked like detached flagella of the typhoid bacillus in a Pitfield preparation.

McWeeney is convinced that his findings verify those of Schaudinn and Hoffmann, and concludes his article by referring briefly to the findings of others in the same line of work.

5. **Sanatorium Treatment of Phthisis.**—An experience of five years, during which 224 patients came under his care, prompts Paget-Tomlinson to conclude as follows: First—That although sanatorium treatment as applied to the poor is less satisfactory than in the case of the rich, it is undoubtedly of great value. It is not too much to say that by its means, when judiciously applied, in nearly all the early cases, and in a considerable proportion of the medium cases, the patients can be restored to comparative health and the power of earning a living. Second—It is of no small importance that all these patients are prevented from drifting into the advanced stage, when they would become a much greater source of infection to all about them. Third—The lessons learned in the sanatorium as to open-air methods can not fail to have a beneficial influence on the future home-life; thus is the gospel of fresh air spread far and wide, manifesting its healing effects in other diseases besides consumption. Fourth—Knowing that the great difficulty physicians have to contend with in treating the consumptive poor is the return to the old conditions of life, more pains should be taken to consolidate the cures: 1, By a more prolonged residence in the sanatorium; 2, by urgently advising an alteration in the occupation, whenever possible, if this has been an injurious one. It would seem that sufficient organized effort has not been made in the direction of providing agricultural or horticultural colonies for patients leaving sanatoriums and especially for those who have previously followed an unhealthy trade. There are many difficulties in the way, but it seems a very important adjunct to sanatorium treatment and, if widely adopted, we should probably hear of fewer relapses. Lastly, it is of the first importance that "homes" for patients in advanced stages should be provided in all large towns and in county districts, where patients may pass their closing days in comparative comfort, and, above all, where they will cease to be a source of dangerous infection to the inmates of their own crowded homes. If this scheme were complete throughout the land, combined with an adequate provision of sanatoriums and colonies for the establishment of health, there is every reason to believe that consumption would be abolished in a comparatively short space of time—a happy result, carrying with it the extinction of much misery and suffering, and, in the long run, proving a considerable financial gain to the country.

6. **Drug Treatment for Inebriety.**—Bolton's treatment consists of the injecting into the muscles of a watery solution containing grain 1/60 of strychnin hydrochlorid and grain 1/30 of atropin sulphate.

The Lancet, London.

June 10.

7 *Pleurisy; Its Pathology, Diagnosis and Treatment. N. Moore.
8 Notes on Plague. A. M. Elliot.
9 *Chemical Examination of the Gastric Contents with an Accurate Clinical Method of Determining the "Active" Hydrochloric Acid. W. H. Willcox.
10 *Electrostatic Treatment. J. C. Webb.
11 Case of Pyrexia Following Childbirth Treated with Antistreptococcus Serum. P. H. Ward.
12 Dislocation of the Carpal Scaphoid. A. Fullerton.
13 Poisoning by Fluid Ammonia Used for Domestic Purposes. H. Savory.
14 Slight Errors of Refraction and Their Influence on the Nervous System. C. E. Pronger.

7. **Pleurisy.**—Moore maintains that, apart from injuries, pleurisy is to be regarded as part of a condition which has generally begun in the respiratory tract, but sometimes in the pericardium (especially in rheumatic fever), and now and then in the peritoneum, and that the origin ought always to be carefully investigated. Empyema is a frequent result of lobar pneumonia and also of tubercle. Large non-purulent effusions are due to pneumococcal or tuberculous affections. Tubercle reaches the pleura from the lung in most cases and in a few from the peritoneum. The diagnosis should take a wide survey of the origin of the disease and not be confined to the interpretation of physical signs. In regard to treatment, he agrees with those who are in favor of evacuating all large serous effusions and all collections of pus, and in the latter case he is more and more inclined to favor the method of resection of a piece of rib as procuring better drainage and, therefore, more speedy recovery. The patient should be kept under observation till he may be considered free from the condition of which the pleurisy was the most prominent manifestation. In pleurisy, regulations as regards fresh air and diet, followed out in all cases, would often prevent the development of permanent tuberculosis later in life.

9. **Method of Determining Active Hydrochloric Acid in Stomach Contents.**—Willcox describes his method as follows:

> Two equal volumes of the filtered gastric contents (20 cubic centimeters)) are taken. (a) One portion is diluted to about 60 cubic centimeters with distilled water, ten cubic centimeters of pure nitric acid, about five cubic centimeters of a solution of iron alum, and a measured excess (30 cubic centimeters) of decinormal silver [illegible] are added. Decinormal ammonium sul- [illegible] run in from a burette until a permanent [illegible] results. The difference between the quan-

rity of silver nitrate solution added and the ammonium sulphocyanid solution used gives the amount of total chlorids present as decinormal HCl. An evaporating dish may be conveniently used for doing the titration. (If the quantity of gastric contents is limited 20 cubic centimeters may be used for the determination of total acidity with decinormal NaOH and phenol phthalein. This liquid is then used for the estimation for the total chlorids exactly as described above.)

(b) The other portion of the gastric contents is placed in a porcelain evaporating dish (four and a half inches in diameter) and evaporated to dryness on the water bath. The solid residue is heated for about an hour on the water bath. The dish is then placed on a piece of wire gauze and heated with a small Bunsen *flame, the flame not coming in actual contact* with the dish. The heating is continued for about ten minutes until the residue is well charred. The dish is cooled; about 60 cubic centimeters of water and the pure nitric acid are added, the contents being well stirred with a glass rod. The titration is then performed exactly as described above (a) and the quantity of chlorids present given in terms of decinormal HCl. The difference between the chlorids found in (a) and (b) expresses with great accuracy the amount of the physiologically active hydrochloric acid. The effect of igniting the dried residue of the gastric contents is to drive off the free hydrochloric acid an[illegible] organic bases which have combined with [illegible] causing the latter to be also volatilized. [illegible] therefore, represents "the active hydrochloric acid." It is important that the dish be not heated over a free flame or else inorganic chlorids may be volatilized in small amount. The presence of the black particles due to the charring does not in the least interfere with the accuracy of the titration, since the white precipitate of silver chlorid and silver sulphocyanid forms an effectual contrast to this and the first appearance of a red-bbrown tint in the titra[illegible] seen. It is not necessary to filter off the [illegible] introduces errors and makes the process [illegible]

10. Electrostatic Treatment.—Webb says that electrostatic currents find their main field of utility in the treatment of all acute and chronic inflammations not due to microbic origin or to pressure of a growth; chronic inflamed joints, congestion of the liver with constipation, inflammation of nerves or of their sheaths, ulcers, certain skin troubles, inflammatory glandular swellings, chronic or subacute catarrh of the vocal cords leading to hoarseness or aphonia, hemorrhoids, anal fissure, early cases of locomotor ataxia, spasmodic dysmenorrhea, functional neuroses and in treatment of persons suffering from the effects of overwork.

Indian Medical Gazette, Calcutta.

May.

15 *Operation for the Removal of Elephantiasis of the Scrotum and Penis. J. T. Calvert.
16 [illegible] Disease in Bengal. J. W. D. Megaw.
17. * [illegible] Relief of Benign Stricture of the [illegible]
18 *Malaria Prophylaxis. S. H. L. Abbott.*
19 Cataract Coughing. H. Smith.
20 Pterygium of Bacilli. R. McCarrison.

15. Operation for Removal of Elephantiasis of External Genitals.—Calvert describes the operation performed by him on several hundred patients, with a mortality of 1 per cent., as follows: The patient is placed in the recumbent position on the table. A large rubber tube is placed twice around the tumor after the method of McLeod. A longitudinal incision is made from the healthy tissues above the pubes along the dorsum of the penis, or over its supposed situation when invisible, and the penis is rapidly dissected out, the prepuce when free being clamped with forceps and dealt with subsequently. A vertical incision is made over each testicle in turn and these, when freed, are turned up over the pubes. A curved incision is then made from the cut at the root of the penis to the perineum, sometimes even touching the margin of the anus. A similar incision is made on the opposite side. The testicles being held well up, together with the penis, a finger is placed in front of the urethra, to avoid its being injured, and the tumor is rapidly cut away. The cut surface is covered with towels to avoid contamination, the prepuce slit up from within, the glans thoroughly and then the whole of the prepuce and all loose tissue is carefully dissected off the penis. The blood vessels are clamped with forceps and twisted in adults, or ligated with catgut in the case of old men. The cord is now removed, pockets are required made beneath the skin on the inner side of each thigh into which the testicles are pushed and the skin is brought together in one straight line with silver wire sutures. Before closing the wound a drainage tube is introduced from a point about three-quarters of an inch above the root of the penis to the perineum, where it is brought out by preference some little distance away from the anus. The suture nearest the urethra is always of strong catgut lest the penis should be swollen and be cut by pressure on a metal suture. The wound being closed, the penis is put well on the stretch, and the skin all around, except in front of the urethra, is fixed to its sheath by a continuous catgut suture. The penis being still kept well extended, is covered with two or more skin grafts, placed longitudinally, obtained from the front and inner surface of the left thigh. These grafts are kept in position by wrapping two strips of oiled silk about an inch wide and twelve inches long round the still extended organ, followed by two long strips of boric lint wrung out of boracic acid solution and wrapped on wet—the better to fit the penis. This dressing is kept in position by a few strips of twisted gauze tied circularly at intervals. The latter precaution is essential, as it was found that when patients went to stool the dressing sometimes slipped off like a glove. By the above dressing the penis is incased in a fairly stiff splint and can not retract, thus insuring, on recovery, a penis of a length as great, if not greater, than before the onset of the disease. The wound is dressed with strips of perchlorid gauze, sublimate wool and a figure-of-eight bandage. The superficial wound caused by removing the grafts is covered with a piece of lint soaked in picric acid solution, 1 per cent., which is left untouched till healing has taken place under it. The wound is dressed on the fourth day and the tube removed. It is dressed again on the eighth day, on which date or two days later it is usually healed. The penis is dressed on the fourth day, when the oiled silk is removed and strips of gutta-percha tissue substituted. The rapidity of the healing of the penis depends on the success of the grafting. When two grafts are cut sufficiently broad to cover the entire penis healing is very quick and successful. With three or more grafts there is a tendency for the grafts to become displaced and for healing to be retarded. The grafts may also be wound circularly round the penis instead of being placed longitudinally, though Calvert prefers the latter method. Boric lint is used because it is stiffer than ordinary lint and makes a better splint. By wrapping the second piece of lint more thickly at the root than near the glans, the penis will keep erect, even though unsupported, as if in a splint. To protect it from injury in bed a half hoop of split bamboo is fixed over it between the side pieces of the bed. Silver wire is chiefly used on account of its cheapness, as almost every bit can be used. The drainage tube is used because the wound, especially before and at the time of sewing up, is freely douched with perchlorid lotion (1 in 1,000) which, though antiseptic, is irritating and gives rise to a certain amount of reaction. Smaller tumors are dealt with after the manner of Charles, without the elastic cord; the incision being begun below and the vessels secured as the incision is extended.

17. Gastroenterostomy for Benign Stricture of Pylorus.—Nine cases, all males, are cited by Wanless. His treatment is as follows: In all cases in which stricture is suspected the patients are ordered lavage of the stomach morning and evening, with from four to eight pints of hot water at a temperature increasing from 105 to 115 F. Alkalies at intervals after meals, or an acid tonic, with pepsin, etc., with meals, combined with suitable laxatives and a light diet, are tried for a week, and in some instances for a longer period at the patient's request; if these measures fail to give steady and marked relief, operation is advised. The patient is prepared by a light diet for two or three days, free purgation, a cardiac tonic of strychnin and digitalis, and lavage twice daily, with sterile water or a weak boric acid solution. The teeth should be brushed with a mild antiseptic and the mouth rinsed several times a day with boric lotion. The abdomen and chest are prepared in the usual manner for abdominal section. Early on the morning of the operation the patient is given eight or ten ounces of broth or beef tea, and a soap and water enema given two hours later. The stomach is then washed out with weak boric lotion, and this is repeated before bringing the patient to the table. Strychnia gr. 1/40, atropin gr. 1/100 and morphin gr. 1/4 are usually given hypodermically half an hour before operation. The limbs and lower abdomen and buttocks are covered with flannel and hot water bottles are placed about them on the table. The stomach is exposed through a three or four inch median incision, beginning from one inch to an inch and a half below the ensiform cartilage. The stomach is first brought into the wound and examined. Gatsroenterostomy having been decided on, the question of choice between the anterior and posterior operation must be immediately determined. In nine cases the posterior operation was done in eight, and the anterior in one. The posterior operation should be chosen in all cases except when the anterior wall of the stomach, by dilatation or displacement, appears to occupy a point anatomically lower than the first portion of the duodenum; or in which the mesenteric vessels in the mesocolon appear to be so large or so numerous that the making of an opening in it by blunt dissection is likely to be attended by troublesome hemorrhage, in which case the anterior operation, though not anatomically so ideal, should be chosen rather than to incur the risk of primary or secondary hemorrhage. Besides, if a large vessel in the mesentery is torn and ligated, the vitality of a corresponding section of the colon may be impaired. In none of the nine cases was the condition of the mesenteric vessels such as to contraindicate the posterior operation. The von Hacker method was used in seven of the cases. Fine silk or celluloid thread and an ordinary straight, round sewing needle were used. In eight of the nine cases the abdominal wound was closed by tier sutures. Wanless has been in the habit of using for the fascia mattress sutures of fine silk and coarse chromicized catgut alternately placed, the peritoneum being sutured in the ordinary manner with a running catgut suture, and the skin with interrupted silkworm gut. He has found it best to use a small cigarette gauze drain in the lower end of the incision, and this is removed in from twenty-four to forty-eight hours. The wound is dressed in the ordinary manner. The plan of feeding is as follows: Every six hours nutritive enemata for the first three or four days; if the bowels are loose, each enemata is preceded by a dose of 15 drops of laudanum injected into the rectum fifteen minutes before the enema is given; by the mouth, sterile water, in dram doses, every half-hour for first twenty-four hours, thereafter barley water in two-dram doses every hour for twenty-four hours, and increased to an ounce every two hours on the third day. Chicken broth or peptonized milk may be given alternately with the barley water, and on the fourth day clear soup broths and peptonized milk, two or three ounces every three hours may be allowed, and on the fifth day the quantity doubled at four-hour intervals. By the seventh day sago may be allowed; on the eighth, rice; by the tenth day bread may be permitted, and thereafter ordinary food. In some cases of great weakness essence of chicken or broth may be allowed after the first twenty-four hours, a dram at half-hour intervals.

Annales des Mal. Génito-urinaires, Paris.

Last indexed XLIV, page 831.

21 (XXII, No. 22.) Les variations de la virulence et la chirurgie urinaire. F. Guyon.
22 Report of French Congress of Urology, 1904. (Commenced in No. 21.)
23 (No. 23.) Rôle des glandes de l'urèthre dans les suppurations périnéales. J. Escat (Marseilles).
24 *Description, fonctionnement et avantages du cloisonneur vésical gradué (urine segregator). E. Boddaert (Ghent).
25 (No. 24.) Sur la pathogénie des kystes dermoides de l'ovaire et du testicule. A. Pappa.
26 Corps étrangers de la vessie (foreign bodies in bladder). A. Pappa.
27 Fixateur pour sondes à demeure (Contrivance to hold permanent catheter in urethra). L. Ferria (Turin).
28 (XXIII, No. 1.) Des rétrécissements inflammatoires de l'urèthre postérieur (strictures). R. Le Fur.
29 Hypospadias balano-pénien. A. Broca.
30 (No. 2.) Dosage de l'uree. Meillère.
31 Les kystes hydatiques pelviens. F. Guyon.
32 (No. 3.) *De la chloroformisation de la vessie (of bladder). F. Guyon.
33 Length of Male Urethra.—Sur la longueur de l'urètre chez l'homme. P. Bazy and M. Deschamps.
34 *Procédé de néphrectomie pour cancer. R. Grégoire.
35 (No. 4.) Anatomie du trigone vésical. R. Uteau.
36 Diet Without Salt.—La pratique du regime déchloruré. Achard.
37 *Separation intravésicale des urines. G. Luys. Id. F. Cathelin. (Commenced in No. 2.)

24 and 37. **Separation Within the Bladder of Urine from Each Kidney.**—Luys describes and illustrates his instrument and also those of others devised for the same purpose, citing the various experiences with the segregators. Those of Cathelin and Boddaert are graduated. The principle of these three is the formation of a dividing wall in the bladder by a flat bag of fine rubber tissue drawn out into shape, after the instrument has been introduced, by a chain or hoop emerging from the body of the instrument.

32. **Effect of Anesthetics on the Bladder.**—Guyon discusses the sensibility of the bladder in health and in disease. In health the sensibility to distension is scarcely modified by chloroform anesthesia, and in morbid conditions it is not modified at all. The sense of contact, however, is entirely abolished by the chloroform. The moment the bladder begins to feel it begins to contract. In operating on the bladder, the depth of the anesthesia can be regulated to its degree of sensibility. If very sensitive, supplementary morphin may be needed, while in the non-sensitive cases a very little chloroform will suffice. In operating on the bladder, therefore, a few days of preliminary treatment of cystitis, etc., will reduce the sensibility and thus allow surgical intervention with a surprisingly small amount of chloroform. Distension of the bladder should be scrupulously avoided both before and during the operation. The symptoms of returning sensibility are readily apparent in the exposed bladder. The wall stretches and loses its suppleness; the field of the operation changes its shape and grows smaller; the play of the instruments is hindered. A few more drops of chloroform and these symptoms of returning sensitiveness subside.

34. **Nephrectomy for Cancer.**—Grégoire's technic allows the removal of the kidney without opening its adipose capsule, and with it removes the suprarenals, the lmphatics and ganglia. A block of wood raises the lumbar region, and the incision outlines a flap, starting from an extension of the anterior axillary line from the costal arch to the iliac crest. The upper end of the incision curves along the edge of the thorax for from 4 to 5 cm., and the lower end follows Poupart's ligament for the same distance or more. The organs within can be drawn up and out, leaving the muscular background entirely free. After the kidney has been detached with the fingers all around, the pedicle is ligated, and the operation is easily completed. Oversight is more extensive than with a lumbar incision and the ablation can be more radical. Experiences on the cadaver and in two cases in the clinic, he thinks, have fully established the superiority of this technic.

Bulletin de l'Académie de Médecine, Paris.

38 (Year XLIX, No. 23.) Influence of Salt-Containing Waters and Infestation of Mines by Larvæ of Anklostomata.—Eaux salées de filtration rendant certains mines de houille refractaires, etc. Manouvriez (Valenciennes).
39 *Tuberculose inflammatoire, ses localisations multiples, en particulier sur l'estomac, l'intestin, etc. A. Poncet and R. Leriche.

38. **Destructive Action of Salt Water on Larvae of Ankylostomata.**—Manouvriez shows by numerous examples that mines fed with sea water or with a saline mineral water are exempt from ankylostomiasis, although the conditions otherwise favor infection. He has found that even as small a proportion as 2 per cent. salt effectually preserves mines from infestation and the miners from ankylostomiasis. He suggests that salt might be scattered around or a water containing 2 per cent. salt used for irrigating, and thus destroy the larvæ much more easily and inexpensively than measures directed against the mature parasite.

39. **Inflammatory Tuberculosis.**—Poncet has long proclaimed that, besides the classic histologic process of tuberculosis, the disease is liable to take the form of rheumatism, with a plastic tendency. This is merely a special localization of a more general process, inflammatory in nature, which is the result of the toxins of the tubercle bacillus inducing an active proliferation of connective tissue. The lack of any specific lesion has caused these inflammatory tuberculous lesions to be overlooked. The researches of the last two or three years have demonstrated that other agents are liable to cause the production of the so-called tuberculous follicle, while, on the other hand, the tubercle bacillus is liable, by its mere presence, to induce the ordinary lesions of common inflammation. He

discusses those observed in the stomach and in the intestines. Tuberculosis of the stomach may assume the ulcerative or *hypertrophic form or the fibrous form from the start.* These false tumors generally occupy the pyloric region, and are distinguished by infiltration of the submucous coat, with thickening and fibrous organization of the connective tissue. The mucosa is intact, and the peritoneal reaction may be slight or intense. This simple hypertrophic submucous sclerosis has been noted in tuberculous cadavers, but has not been attributed to its true cause hitherto, although it has frequently been described in the autopsy findings. Similar lesions occur in the intestines, breast, thyroid and elsewhere, and he suggests the term *"inflammatory tuberculosis" as best describing its characteristics.* The entire absence of tuberculous follicles and of giant cells does not contradict this assumption, in his opinion.

Revue de Médecine, Paris.

Last indexed XLIV, page 77.

40 (XXIV, No. 11.) Sur le diagnostic des abcès du foie (of liver). H. de Brun.
41 Etude de la rupture spontanée de l'aorte. Tolot and Sarvonat.
42 *Etude de la polymyosite. Preobrazhenski and Margulies. *(Commenced in No. 10.)*
43 Ferments solubles, toxins, toxalbumines, anticorps, antitoxines, alexines, cytases. A. Chassevant.
44 (No. 12.) La maladie de Banti, existe-t-elle? A. Gilbert and P. Lereboullet.
45 *De l'accélération et du ralentissement du pouls per numération accélérée et ralentie à haute voix (influence on pulse of slow and rapid counting). Bernheim (Nancy).
46 Gangrène multiple spontanée de la peau (of skin). M. Truffi.
47 *Sur l'origine organique des certaines phobies. P. Hartenberg.
48 *Des affections syphilitiques du coeur (of heart). J. Cecikas (Bucharest).
49 (XXV, No. 1.) Alimentation des chiens tuberculeux (dogs). C. Richet.
50 Nouvel essai de cardiographie clinique. A. d'Espine (Geneva).
51 Tuberculose expérimentale du coeur (of heart). L. Bernard and M. Salomon.
52 Sur un nouveau syndrome clinique d'origine très probablement paludique: "le chloropaludisme." Sakorrhaphos (Athens).

42. **Polymyositis.**—A case is described in detail, with the autopsy findings. The patient was a woman of 25, and the affection terminated in respiratory paralysis in about nine months. The first symptoms were noted after prolonged exposure to cold. The pains in the muscles occurred spontaneously and could also be elicited on pressure. The muscles were weak and emaciated. The flexors of the fingers were contracted in both hands. The kneejerk was weak, and the arm reflexes were all lacking. The heart action was irregular and intermittent, with small pulse, low pressure, and profuse sweats. There were no specific characteristic changes found in the muscles.

45. **Changes in Pulse When It Is Counted Aloud.**—Bernheim gives tracings to sustain his statements that *if one counts the pulse of another person aloud, and hastens the counting so as to make it faster than the pulse really is beating, the pulse will become accelerated to correspond.* The rate increases from 6 to 15 beats a minute. The increase is only about half this when the arterial pressure is above normal. It commences about the fortieth second and reaches its maximum from the second to the third minute in case of normal pressure. With hypertension the effect is not apparent for about three minutes, but persists longer. When the counting is slower than the pulse, the latter is retarded to correspond. These phenomena demonstrate, he thinks, *that suggestion is able to act on the automatic functions without the intermediation of the will.*

47. **Organic Origin of Certain Phobias.**—A woman complained of severe vertigo whenever she crossed a bridge, looked down from a height or rowed in a boat. There were also "palpitations" and emotional distress. Hartenberg concluded, after observing one of the attacks, that there was no real vertigo, but merely the fear of having it. The "palpitations" were the primal cause. They suggested impending vertigo, and drugs to reduce the excitability of the heart, with a little hydrotherapy and lighter diet, soon banished the "palpitations" and with them all traces of the phobia. An organic cause can be found for every phobia, he thinks, if persistently sought for.

48. **Syphilitic Affections of the Heart.**—Cecikas draws the clinical picture from eleven cases and emphasizes the necessity for prompt, vigorous and persevering mercurial treatment.

Semaine Médicale, Paris.

53 (XXV, No. 23.) Proceedings of International Congress on Accidents to Working Men.—Les accidents de travail au point de vue médical. H. Le Meignen. See foreign news columns on page 1995 of last volume.
54 L'épidémie actuelle de méningite cérébro-spinale dans l'Europe centrale.

Berliner klinische Wochenschrift.

55 (XLII, No. 20, May 15.) Die Balneotherapie in der Nervenheilkunde (in nervous affections). A. Eulenburg.
56 Ueber die Combination von Excisions- und Roentgen-Therapie bei der Morbus Basedowii. C. Beck (New York).
57 Dr. Paskal Josef v. Ferro, ein Hydrotherapeut des XVIII Jahrhunderts (century). R. Bassenge.
58 *Die Verwertung der Hydrotherapie in der Behandlung der Herzkrankheiten. S. Munter (Berlin).
59 Changes in Nails After Acute Infections.—Nagelveränderungen nach akuten Krankheiten. Eger.
60 Mechanismus der Antiamboceptor-Wirkung. P. Ehrlich and H. Sachs. (Commenced in No. 19.)
61 Address at Dedication of Berlin Institute of Hygiene. M. Rubner.
62 *Epidemiologie der Tuberkulose. Kutscher.
63 *Hydro-Dilator zur Extraktion von Fremdkörpern aus der Speiseröhre (foreign bodies in esophagus). P. Bakaleinik (Kiev).

58. **Hydrotherapy in Heart Affections.**—Munter is convinced that with hydrotherapy we are able scientifically to control and to guide the natural curative powers of the organism. In nervous heart affections, the torpid cases require stimulating, and the overexcited ones soothing measures. An *important differential sign in nervous heart affection is increased desire to urinate with increased output of urine. This indicates good functional capacity on the part of the heart, and excludes an organic lesion. On the other hand, an organic heart affection is generally associated with a sensation of distension in the abdomen with desire to defecate, which is probably due to congestion in the abdomen.*

62. **Epidemiology of Tuberculosis.**—Kutscher analyses articles on this subject published within late years in Turkey, Greenland, Japan and elsewhere. Breast feeding of infants is universal in these countries, and yet the proportion of tuberculous is as large or larger than in Europe. This, he thinks, disproves von Behring's statements *in regard to the importance of cow's milk in infant feeding for the etiology of tuberculosis.*

63. **Water Bag for Extraction of Foreign Bodies in Esophagus.**—Bakaleinik's "hydro-dilator" has been mentioned previously in these columns. He has found it very useful for extraction of foreign bodies in the esophagus. The apparatus consists of an air pump connected with a rubber tube closed at the farther end. About 8 cm. from the closed end of the tube a dilatable bag of thin rubber is introduced in the tube. The tube and the collapsed bag are inserted in the esophagus and the bag is then inflated with the air pump, *forming a soft,* flexible, round ball. It distends the walls and thus loosens an impacted foreign body and pushes it along ahead of it as the tube is withdrawn, until the foreign body can be seized and extracted from above.

Dermatologische Zeitschrift, Berlin.

Last indexed XLIV, page 78.

64 (XI, No. 12.) *Beiträge [illegible] erkulide im Kindesalter (in children [illegible]
65 Blutveränderungen bei [illegible] Cazenavi (blood changes in). G. [illegible]
66 *Morbid Changes in Urine [illegible] and Under *Mercurial Treatment.*—[illegible] Veränderungen des Urins bei sel[illegible] Quecksilberkuren. E. Adler.
67 (XII, No. 1.) *[illegible] Affections of Inherited Syphilis.—Ue[illegible] Herderkrankungen bei Kindern [illegible] protozoischen Parasiten in derse[illegible] lin).
68 [illegible] Involution eines Riesen-Naevus. L. Spitzer.
69 *[illegible] yer (Berlin).
70 [illegible]
71 [illegible] haut durch hoch-frequente [illegible] quency spark discharges). H. Strebel.
72 (No. 2.) *Kombination von Psychose und Hautkrankheit (cutaneous affection). Raschkow.
73 Thrombophlebitis gonorrhoica. Voss.
74 Ueber Pseudoalopecia atrophicans crustosa. W. Wechselmann (Berlin).
75 Correspondence with Finsen in Regard to Phototherapy.—Gedankenaustausch mit Professor Niels R. Finsen über Lichttherapie. H. Strebel (Munich).
76 (No. 3.) Anatomie der Dermatitis papillaris Capillitii (Kaposi). J. Guszman (Budapest).

77 (No. 4.) Cutaneous Linear Cicatrices of Inherited Syphilis.—Ueber die linienförmigen Narben bei der her. Syphilis. F. Poor (Budapest).
78 Lichen planus [illegible]s.
79 Tuberculosis of [illegible] Zungentuberkulose der Papageien. [illegible]
80 (No. 5.) *Ueber Arsenvergiftung auf Grund einer mikrochemisch [illegible] (arsenic poisoning test). J. Justu[illegible]
81 Ueber die [illegible] 'aget's disease of the nipple). M[illegible] (Commenced in No. 2.)

64. **Tuberculids in Children.**—Nobl noticed a papulo-necrotic exanthema in 13 out of 430 children with some cutaneous affection. He gives a detailed description of each, arguing that they belong in the category of specific tuberculous cutaneous processes. The lesions did not show any special reaction to tuberculin, and seldom displayed the slightest influence from it. No tubercle bacilli were found in any of the lesions. He explains these negative findings as not contradicting the tuberculous nature of the processes, for reasons which he enumerates.

66. **The Urine in Secondary Syphilis and Under Mercurial Treatment.**—All the syphilitics in Ledermann's practice at Berlin have their urine examined before, during and after treatment. By this means he has been able to detect a number of cases of syphilitic nephritis and also of irritation of the kidney from the mercurial treatment. Those in the first class were cured by the mercury, while those in the second were aggravated by it. The latter category includes 31 of mercurial albuminuria, which is a proportion of about 5 per cent. of all the syphilitics taking mercurial treatment. The particulars of the various cases are tabulated. The albuminuria promptly subsided on suspension of the drug. In the two cases of actual nephritis described, the onset of the albuminuria coincided with the appearance of the roseola.

67. **Schüller's Parasites in Inherited Syphilis.**—Since 1899 Schüller has had opportunity to examine a large number of children with lesions of inherited syphilis. Careful records were kept of 62, all but 21 of whom were less than a year old. The protozoon-like parasites which he has previously described were never found in the pemphigus lesions of any of these children, but they were invariably present in abscesses, irrespective of whether the suppuration was in the skin, muscle, periosteum, mammary gland or elsewhere. Local recurrences of the morbid process are due to the growth of new colonies from the walls of the former focus. The minute spores of the parasite grow into the crevices and spaces of the adjacent bone, and carious destruction follows the granulating gummatous process. This was observed frequently in children with a syphilitic heritage. The various phases of the growth of the parasite are illustrated, and Schüller relates that these phases harmonize remarkably with the clinical picture and its variations. Suppuration of syphilitic lesions is more common in young children than in adults, possibly owing to the more numerous chances for secondary hematogenic infection.

69. **Small Drills in Dermatology.**—Kromayer's small circular knives or punches, driven by a foot motor, for use in epilation, were mentioned in THE JOURNAL, page 1074 of the last volume. They are indicated likewise, he says, for opening small abscesses and to stimulate absorption in rebellious pathologic processes, as, for instance, in obstinate syphilides, etc. Some of the drills or punches are similar to those used by dentists. They have proved very useful for excision of warts, nevi and pigmented patches in which the derma must be respected and the excision done above it to refrain from leaving a scar. This is accomplished by applying the punch through a hole of the same size in a thin metal plate. By pressing on the plate, the disc of skin outlined by the cutting edge of the punch protrudes into the hole in the plate. A sickel-shaped knife is then used to slice off this protruding disc of epidermis, not touching the derma below. The defect left heals without leaving a trace, as is always the case, he says, when the derma is intact. Kromayer also uses a drill and fraise in dermatologic work, borrowed from the dentists. He thinks that they have all the advantages, and more, of the curette without its drawbacks. An anesthetic is seldom required. He has punched out over 200 hairs or 300 acne points at a single sitting, without objections from the patients. In other cases, he uses the Schleich infiltration method or ethyl chlorid for local anesthesia.

72. **Combination of Psychosis and Cutaneous Affection.**—Raschkow reviews the dozen or more published cases of this association of a mental with a cutaneous affection, and reports another in a woman of 44. She had long suffered from migraine, but had no morbid heritage. After a period of overwork, a confusional psychosis developed, with hallucinations and anguish. During a phase in which the anguish sensation had nearly subsided, her face became congested and severe acne rosacea developed. The exacerbations of the mental and of the cutaneous affections alternated, one subsiding as the other increased in intensity. This alternation was marked several times until both affections permanently vanished.

80. **Test for Arsenic Poisoning.**—Justus has been studying the possibility of detecting arsenic in the tissues with the microscope, and the technic best adapted for the purpose. By transforming the arsenic in the tissues into arsenic trisulphid, a striking reaction can be obtained with it even in a very thin layer; the color is characteristic, and the localization of the substance in the tissues shows the distribution of the arsenic and throws light on its functions. Arsenic is transformed into the trisulphid by passing sulphuretted hydrogen through its solution. The characteristic odor is lost at once, and the fluid turns yellow. A yellow precipitate is thrown down by long standing or by addition of a concentrated solution of HCl, NaCl or $AlCl_3$. This yellow precipitate is arsenic trisulphid, and the greenish yellow crystals are readily recognized under the microscope. In examining tissues for arsenic, they are first fixed in 4 per cent. formalin for a day or so, then rinsed, cut into very thin sections, and placed in a fresh, neutral solution of sulphuretted hydrogen for three or four days at a temperature of from 60 to 80 C.; they are then rinsed with alcohol and embedded in celloidin. The sections are then placed for from ten to twenty minutes in a 5 to 10 solution of hydrochloric acid to dissolve out the iron sulphid, and then rinsed several times, after which they are stained, cleared up in carbol xylol and mounted in balsam. On applying this test for arsenic in experimental research it was found that arsenic injected subcutaneously combined first with the plasma of the red corpuscles. This technic readily revealed its presence here and in the various organs, in the epithelium of kidneys and intestines, and especially in the muscle and liver cells, sweat glands, stratum corneum and hairs.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

82 (XXXI, No. 20.) *Prognose und Therapie der Albuminurie. Fürbringer.
83 *Karlsbad oder Kissingen? I. Boas (Berlin).
84 Ueber jugendliche Paralyse (juvenile). H. Vogt and O. Franck.
85 *Zur Behandlung der epidemischen Meningitis. C. França (Lisbon).
86 Spirochetes in Syphilitic Infant.—Vorkommen von Spirochäten in inneren Organen eines syph. Kindes. A. Buschke and W. Fischer.
87 *Artificial Respiration.—Ueber künstliche Atmung. G. Herter.
88 *Non-operative Treatment of Angioma.—Operationslose Behandlung der Angiome. M. Neumann.
89 Zur faradischen Behandlung der Fibromyome des Uterus. Witte.
90 Di[illegible] des neuen preussischen [illegible]nanual for midwives). F.

82. **Prognosis and Treatment of Albuminuria.**—Fürbringer remarks that dietetic treatment of nephritic albuminuria is more important than physical measures, while medicine is of comparatively slight benefit except against the underlying cause. Cyclic albuminuria, he believes, is always of pathologic origin, and may be the manifestation of an insidious nephritis. When this can be excluded, physical measures will be found the best means of restoring conditions to normal. Strengthening the heart by muscular exercise is useful if overexertion be avoided. He prefers cold and tepid to hot baths, but the proper reaction with warmth and rewarming of the surface must be obtained or they do more harm than good. One of the principal benefits of the cold baths is the stimulation of the appetite. The clothing must protect thoroughly against cold and dampness. Massage and elastic compression of the legs never did any good in his experience. The diet in nephritic albuminu-

ria should seek to compensate the losses of albumin. Cooked eggs, meat, both dark and light, fish, and vegetable albumin should be taken in abundance. Milk is less a strengthener of the heart than meat, and its frequent drawbacks of dyspepsia and urinary and intestinal disturbances have dethroned it from its former exalted position, although the absence of elements that irritate the kidney and its "rinsing" properties theoretically rank it above meat. The more varied the combinations of the above articles of diet, the better and stronger the patient will feel. The fear of increasing the albuminuria by the copious intake of albumin will be found to have no basis in fact.

83. **Carlsbad or Kissingen?**—Boas emphasizes the fact that no patient with vague symptoms should be sent to any special watering place. Only the clearly defined cases afford indications that enable balneologic measures to be prudently and successfully applied. Too often the cases of vague, chronic gastrointestinal catarrh cast off their mask and disclose their cancerous nature immediately after a course of mineral waters. He reviews his twenty years of experience with gastrointestinal affections under balneologic treatment, and formulates from empiric observation the indications for the various thermal waters. He has scarcely ever noted any benefit from them in cases of motor disturbances in stomach or intestines. Large amounts of mineral waters actually increase the subjective discomfort. In "stagnation insufficiency" of the second degree, as also in all forms of "psychogenic" dyspepsia, courses of mineral waters are absolutely contraindicated. The salol or iodipin tests will generally inform the physician in regard to the gastric motor functions without resort to the stomach tube. "Psychogenic" dyspepsia frequently accompanies organic affections, and it may be wise to try a preliminary course of mineral waters at home to learn whether or not the case will improve under a course at Carlsbad or elsewhere. Only when the water is well tolerated in the preliminary course is a continuance advisable. None of the mineral waters have any permanent effect on merely nervous intestinal affections. He has never known of a case of membranous enteritis cured by a course of mineral waters.

85. **Epidemic Cerebrospinal Meningitis.**—Franca relates that during the epidemic of cerebrospinal meningitis in Lisbon, in 1902, the mortality of 47 cases in which the patients were treated by lumbar puncture alone was over 63 per cent. In 9 patients treated by lumbar puncture and injection of mercury cyanate it was over 66 per cent., while it was only 20.3 per cent. in 58 treated by lumbar puncture and injection of a 1 per cent. solution of lysol. He withdrew from 25 to 50 c.c. of the cerebrospinal fluid and injected from 3 to 9 c.c. of the lysol solution in children, and from 12 to 18 c.c. in adults. The injections were repeated once a day until the fluid was found to be sterile, usually only a question of a few days. With this method of treatment, no recurrences were observed; the duration of the sickness was much shortened, and the diplococci rapidly disappeared from the cerebrospinal fluid. The germs sometimes persisted for months in the cerebrospinal fluid of patients treated by other technics. The patients treated with the lysol were further distinguished by the lack of emaciation and of severe trophic disturbances, and by the much smaller proportion of consecutive mental disturbances, paralyses, etc.

87. **Artificial Respiration.**—Herter recommends a combination of the Marshall Hall, Sylvester, Howard and Brosch methods of artificial respiration, which he describes in detail, laying special stress on the importance of keeping the tongue drawn out of the mouth. The ideal method is to seize the tongue with Pean forceps and draw it out of the mouth, letting it hang down on one side, the forceps fastened to the body by a band passed around the head. If forceps are not at hand, one person must hold with his fingers the tip of the tongue in the corner of a handkerchief. A person kneeling at the head of the subject should devote his entire attention to the tongue, while counting aloud his own breathing rate. An aid on each side makes the Sylvester movements for the arms, while the fourth aid, kneeling astride of the subject, makes the Howard movements, not removing his hands during the intervals, but merely suspending pressure with them, carefully avoiding any pressure of the abdomen that might force stomach contents into the throat, with consequent aspiration. This danger is a real one; aspiration is rendered less imminent by having the head low. If only three assistants are at hand, the one kneeling astride must take charge of the tongue, as well as of the Howard movements, and if there are only two, one must make the Sylvester movements for both arms. If only one is present, the arm movements should not be attempted, and the assistance should be restricted to holding the tongue and the Howard movements.

88. **Bloodless Treatment of Angiomata.**—Neumann gives illustrations of 2 out of 700 cases he has treated during the last five years with eminently favorable results. He applies an emulsion of from 5 to 10 parts of zinc chlorid in collodion to 100 parts. A piece of adhesive plaster is first placed over the angioma, with a hole corresponding to the lesion, but somewhat smaller, as the action of the chlorid extends a little way under the edges of the plaster. This dressing is removed the next or on the second day, and the lesion cleansed and left to nature under a fresh, merely protecting, dressing. The defect usually heals rapidly, sometimes in a week. If relics of the angioma still persist, he applies an ointment containing arsenous acid and sulphur, each 4 parts with unguentum cerei to 100 parts. The sound parts are protected with fenestrated gauze, and this paste is applied on another piece of gauze. In two or three days this dressing should be removed. Zinc chlorid in the above dosage has no toxic action, and no absorption need be feared, even on an area of 30 or 40 square cm., but the arsenous acid is liable to cause toxic accidents. When possible, he substitutes parenchymatous injection of zinc chlorid. The latter alone is sometimes successful in curing certain cases, for example, an extensive angioma of the upper lip was cured by this means.

Deutsche Zeitschrift f. Chirurgie, Leipsic.

Last indexed XLIV, page 1232.

91 (LXXVI, No. 1.) Hemophilia Through Four Generations.—Die Bluterfamilie Mampel in Kirchheim bei Heidelberg. H. Lossen.
92 Zur Pathogen [illegible] Mastdarmvorfälle (k[illegible]
93 *Ueber den [illegible] G. v. Illyes.
94 Experimentelle und histologische Beiträge zur Anatomie und Pathologie des Gelenkknorpels (joint cartilage). R. Seggel.
95 Eight Cases of Plastic Restoration of Entire Lower Lip.—Cheiloplastik bei totalem Verluste der Unterlippe. Eine Kombination der Morganschen Visierplastik mit Schultens Schleimhaut-Muskelplastik. E. Sandelin.

93. **Therapeutic Catheterization of the Ureters.**—Seven cases of suppuration in the kidney pelvis or in the ureter were treated by catheterization of the ureter. It promptly evacuated the pus and allowed the pelvis to be thoroughly rinsed after nephrotomy in some of the cases. More or less benefit was derived in every instance. Illyes remarks that the harmlessness and simplicity of this method of treating kidney affections should commend it for more general use. It may cure entirely or at least relieve some serious symptom. The above cases are reported from Dollinger's clinic at Budapest. The patients were from 21 to 56 years of age, and the primary cause of the trouble had been a kidney stone in most cases. In others there was ectopia of the bladder or ascending pyonephrosis.

Jahrbuch f. Kinderheilkunde, Berlin.

Last indexed XLIV, page 1569.

96 (LIX, No. 4.) Zur Bakteriologie des Entero-Katarrhs. B. Salge.
97 *Water and Salts in Relation to Fluctuations of Infants' Weight.—Wasser und Salze in ihren Beziehung zu den Körpergewichtsschwankungen der Säuglinge. W. Freund (Breslau).
98 Influence of Nutritional Disturbances on Chemical Composition of Infant's Body.—Einfluss von Ernährungsstörungen auf die chem. Zusammensetzung des Säuglingskörpers. F. Steinitz.
99 *Clabbered Milk for Sick Infants.—Erfahrungen mit gelabter Kuhmilch in der Ernährungstherapie kranker Säuglinge. Reinach.
100 (No. 5.) Temperature of Infants at Night.—Ueber die nykthemeralen Temperatur-Schwankungen im ersten Lebensjahre des Menschen. I. Jundell (Stockholm).
101 Einfluss [illegible] auf die Diphtherie-Mortalität.
102 Ueber [illegible] asles-scarlet fever cases). B. Hukiewicz.

103 (No. 6.) *Ueber Rubeolæ und Doppel-Exantheme. D. Popischill (Vienna).
104 2 Fälle von [illegible] Jundell.
105 (LX, No. 1.) [illegible] Intestinal Wall in Infants [illegible] Antitoxin durch die Darmw[illegible] B. Salge.
106 Mucous For[illegible] After Birth.—Ausdehnung der Schleimbildung in den Magenepithelium des Menschen vor und nach der Geburt. P. Reyher.
107 Blutbefunde bei Chorea minor und Tic convulsif (*blood findings*). Schaps.
108 Zur Vererbung der Syphilis (*inheritance of*). Misch.

97. Retention of Water and Salts in Relation to Weight of Infants.—Freund's extensive research, he thinks, has established the fact that the sudden large increase in weight sometimes noticed in infants is due to retention of water. It occurs only in pathologic conditions and seems to be connected with processes of repair. Nothing of the kind was observed in breast-fed infants. He advances a theory to explain various features in the metabolism and the localization of the water in the organism. Certain infants take on fat at the same time as they retain water, while others retain smaller amounts of water to substitute fat consumed in undue amounts.

99. Clabbered Milk for Sick Infants.—Reinach gives the detailed histories of 44 out of 51 sick infants whom he has been feeding with "junket." The milk is artificially clabbered with lab ferment, according to von Dungern's directions. The clots are much finer than from ordinary milk. The results in the chronic cases scarcely surpassed those obtained with ordinary milk, but in acute gastrointestinal troubles the results were much better. Vomiting and restlessness after eating ceased after substitution of the clabbered milk in many of the cases, as also symptoms of irritation on the part of the central nervous system.

103. Rubeola and Double Exanthemata.—Pospischill discusses the differential diagnosis of measles with an abnormal course. The red cheeks of rubeola are characteristic, as also the features of the exanthema, which he describes in detail. He further describes 2 cases of simultaneous rubeola and scarlet fever, calling attention to the confluence, beet-like consistency and brick-red color when scarlet fever complicates any of these eruptive diseases. These findings are characteristic long before any scarlatinal exanthem has become visible. When scarlet fever is superposed on fresh measles the exanthema resembles neither typical measles nor the scarlatinal eruption. Experience apparently shows that the commencement of the measles eruption increases the predisposition to scarlet fever and varicella has a similar effect. In one of his cases, the child had a mild scarlet fever during an attack of rubeola, with a second, severer recurrence of the scarlet fever in less than a month, accompanying the outbreak of true measles. The association of two eruptive diseases is much more frequent than generally recognized. He is convinced that the overwhelming majority of streptococcus general infections in cases of measles and varicella are due invariably to secondary infection from septic scarlet fever. The acute hemorrhagic nephritis which sometimes follows the eruptive diseases is unmistakably the result of scarlet-fever infection. Children convalescing from scarlet fever should be isolated from fresh cases of scarlet fever, and children who have received serum treatment should be kept away from fresh cases of scarlet fever until after the ninth day.

Monatsschrift f. Geb. u. Gynäkologie, Berlin.

Last indexed XLIV, page 1650.

109 (XXI, No. 5.) Examination of Incipient Hydatidiform Mole.—Untersuchung-sergebnis einer Blasenmole im Frühstadium. A. Stoffel.
110 Ueber chorioepitheliomartige Wucherungen in Hodenteratomen (*in teratoma in testicle*). R. Emanuel.
111 Follicles with Several Ova and Mononucleated Ovum Cells.—Ueber mehreiige Follikel und mehrkernige Eizellen. [illegible]
112 [illegible] Radikal-Operation des carzinoma-[illegible]pe.

Virchow's Archiv, Berlin.

Last indexed, XLIV, page 1971.

113 (CLXXIX, No. 1.) Descending Degeneration of Posterior Columns.—Ueber absteigende Hinterstrangdegeneration. S. Matuszewski.
114 Senile Flattening of the Trachea.—Ueber Alterssäbelscheidentrachea. M. Simmonds.
115 *Experimental Production of Lymphocyte Exudates.—Ueber experimentelle Erzeugung von Lymphozytenexsudaten. Fr. Proscher.
116 Changes in Muscles Where Snake Venom Is Injected.—Pathologisch-histologische Veränderungen der quergestreiften Muskeln an der Injektionsstelle des Schlangiftes. G. P. Zellony.
117 Islands of Gastric Mucosa in Esophagus.—Ueber die Schafferschen Magenschleimhautinseln der Speiseröhre. K. Schwalbe.
118 Zur Kenntnis der Mamma-Cysten mit butter-ähnlichem Inhalt. L. Samelson-Kliwansky.
119 Ueber das Adenocarcinom und Adenom der Leber (*of liver*). K. Wegelin.
120 [illegible] [illegible]ere (*decapsulation of kidney*).
121 [illegible] Untersuchungen. L. Michaelis.
122 [illegible]—Ueber die im grossen Netz [illegible]
123 [illegible]
124 Zur Entstehung der akuten [illegible] H. Silbergleit.
125 Plague at Manila.—Ueber latente und ambulatorische Pest. M. Herzog (Manila).
126 Zur pathologischen Anatomie der Gicht (*gout*). F. Rosenbach.
127 *Origin of Varices in Respect to Their Dependence on the Innervation of the Vascular Nervous System.—Entstehung der Varicen in Abhängigkeit vom Gefässnervensystem. S. Kashimura.

115. Experimental Production of Lymphocyte Exudates.—*Proscher discovered, in the course of his studies on immunity to tuberculosis, a substance which induced an exudate, consisting almost exclusively of lymphocytes, when injected into guinea-pigs. This substance is derived from the intracellular toxin obtained from tubercle bacilli. When this was injected into the peritoneum of guinea-pigs, he was able to follow with the microscope the transformation of endothelium into mononuclear cells. This supplies, he states, the missing link in the testimony which demonstrates that the lymphocytes are formed out of the fixed tissue cells. It further throws light on the development of the tubercle.*

121. Ultramicroscope Researches.—Michaelis' work was reviewed editorially on Page 1451 of the last volume of The Journal.

123. Inhalation of Bacteria.—The results of the experimental research described are summarized in the statements that *nothing to date has absolutely demonstrated that bacilli make their way into the lungs exclusively or even almost exclusively by way of inhalation. The number of bacilli actually penetrating into the lungs by way of inhalation is incomparably smaller than the amount inhaled but caught along the walls of the upper air passages. On the other hand, everything tends to show that bacilli getting into the mouth and throat by way of the food or by inhalation or otherwise can find their way into the lymph stream and thus be swept to the lungs through the lymphatics.*

127. Origin of Varices.—Kashinura presents evidence to sustain his assumption that the veins and the vasa vasorum stand under the direct influence of the nervous system. Their functioning is dependent on the supply of blood in the vessels in the walls of the veins, and this supply is under the control of the sympathetic nervous system. Abnormal irritation of the nerves of the vein musculature induces hyperplasia in time, with consequent hyperfunction on the part of the vein. When a period of abnormally low stimulation follows as the reaction to the overstimulation, the blood current slows down and a more or less permanent stasis hyperemia results. This entails, in time, the disappearance of true muscle fiber and an increase in the collagen fibers in the walls of the vein. A similar process is liable to occur in the heart musculature, and explains some of its pathology as well as the etiology of varices in the saphena.

Gazzetta degli Ospedali, Milan.

Last indexed XLIV, page 1891.

128 (XXVI, No. 13. *Prognostic Importance of Leucocyte Formula in Cerebrospinal Fluid.—Valore prognostico, etc. C. P. Goggia.
129 [illegible] in Relation to Cardio-pulmonary [illegible] della bocca. G. Binetti.
130 *[illegible] [illegible]ofundi del grande bacino (*in pelvis*). R. Cecca.
131 *[illegible] [illegible]terna. A. Gaetano.
132 *[illegible] [illegible]fezioni da piogeni. A. Balduzzi.
133 [illegible] [illegible]bercle Under Direct Action of Spe[illegible]n.—Come evolve il tubercolo, etc. [illegible]s Institute, Genoa).
134 [illegible] [illegible]o conseguente a trauma del capo (*optic atrophy after head injury*). A. Carbona.
135 *Pathogenesi della [illegible] [illegible]lla sua terapia specifica. Ferrer[illegible]
136 *Sieroterapia dell' a[illegible]

128. Cerebrospinal Fluid in Meningitis.—Goggia mentions the constant predominance of small mononuclear elements in the cerebrospinal fluid during diplococcus meningitis in two men. One died. As the other entered on convalescence, polynuclear elements became constantly predominant.

130. Diagnosis of Retroperitoneal Tumors.—Cecca calls attention to a sign of a deep-seated tumor in the retroperitoneal region corresponding to the iliac fossa. He has reproduced it on the cadaver by making an artificial tumor, and explains the mechanism producing it. The patient lies supine on a table (a bed is too soft for the purpose); the operator stands on the side of the supposed tumor. If on the right side, he places his left hand on the lower quadrant of the abdomen and tries to palpate the tumor. When he feels the mass, with the other hand he grasps the leg of the same side, held as stretched and rigid as possible, taking hold at about the lower third of the tibia. He first flexes it lightly on the pelvis and then abruptly draws it down until the heel touches the table. The knee must be kept rigid, without flexing, all the while. As the heel touches the plane surface, the hand on the pelvis feels a sudden impact, synchronous with the contact of the heel with the flat surface. This impact or ictus, as he calls it, is not felt in case of tumors situated elsewhere, while an experience of years has confirmed its constant presence when a tumor is located in this region.

131. Ligature of External Carotid.—Gaetano's patient had been stabbed in the throat, the knife passing through the parotid gland into the pharynx. It was impossible to tell which vessel had been injured in the deep wound. To arrest the hemorrhage, a ligature was thrown around the external carotid through an incision along the anterior margin of the sternocleido muscle. The desired result was attained and the patient rapidly recovered.

132. Relations Between Pyogenic Affections.—Balduzzi relates a large number of instances from his own experience in which various members of a family were attacked by erysipelas, follicular tonsillitis or acute articular rheumatism almost simultaneously. One member of the family would have the tonsillitis, while the others soon after would present articular rheumatism or erysipelas of the face. In 2 cases, an abscess in the lower left lung, following pneumonia, was followed about a month later by acute articular rheumatism. In another, an abscess in the axilla was the similar precursor of rheumatism soon after. In one family, the mother had erysipelas and her child follicular tonsillitis, commencing almost simultaneously, while the nurse followed with tonsillitis three days later. Two brothers presented the lesions of erythema nodosum almost simultaneously, one of them having just recovered from a catarrhal sore throat. The relations between these various pyogenic affections are unmistakably evident in his account. They are all due to the same cause, he asserts, and are merely different manifestations of the same pyogenic micro-organisms. He is an ardent advocate of the Baccelli method of subcutaneous injection of carbolic acid in pyogenic infections, and he treated all the affections mentioned above by this means, alone or combined with sodium salicylate. The latter alone was never so efficient as the carbolic acid, which he regards as the specific, almost sovereign remedy for pyogenic infections. He has had no experience with serum treatment.

135. Tuberculosis and Specific Treatment.—Piera refers to a large number of patients completely cured of tuberculosis by serotherapy, and then discusses another series in which slight, if any, improvement followed the specific treatment. His experience has been much more favorable with the Maragliano serum than with others. It certainly neutralizes the action of the protein and toxalbumin toxins of the tubercle bacillus, but he is convinced that not all the toxins secreted by the tubercle bacillus are capable of creating antitoxins. Those bacilli which possess large quantities of the toxin "necrosin" still exert a toxic action, notwithstanding that their protein and toxalbumin elements are neutralized by the antitoxin which their presence elicits. This class of bacilli are unconquerable by the phagocytes, and thus the tuberculous process is uninfluenced by the serotherapy. These are the bacilli that take stains particularly well. Those that stain feebly, on the other hand, succumb in the struggle with the phagocytes, and the patient recovers.

136. Ludwig's Angina.—Pozzolo reports 3 cases of cellulitis of the sublingual and submaxillary regions. The affection in each originated in a carious tooth. One was treated with antistreptococcus serum, with promptly favorable results.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

SYSTEM OF PHYSIOLOGIC THERAPEUTICS, Under the General Editorial Charge of S. Solis-Cohen. Vol. VII—Mechanotherapy and Physical Education, Including Massage and Exercise, by J. K. Mitchell, M.D., and Physical Education by Muscular Exercise by L. H. Gulick, M.D. Pp. 420. With 229 Illustrations. Vol. VIII—Rest, Mental Therapeutics, Suggestion, by F. X. Dercum, M.D., Ph.D. Pp. 332. Vol. XI—Serumtherapy, by J. McFarland; Organotherapy, O. T. Osborne, M.A., M.D.; Radium, Thorum and Radioactivity, by S. G. Tracy, B. Sc., M.D.; Counterirritation, External Appplications, Bloodletting, F. A. Packard, M.D. An Outline of the Principles of Therapeutics, with Especial Reference to Physiologic Therapeutics by the Editor and an Index-digest of the Complete System of Eleven Volumes. Illustrated. Pp. 388. Price, $2.50 per volume. Philadelphia: P. Blakiston's Son & Co. 1905.

A MANUAL OF ACUTE POISONING, Giving Classification, Varieties, and Individual Substances Usually Met with in Emergency Poisoning, etc., Together with Methods for Use in First Aid to the Injured. By J. W. Wainwright, M.D. Cloth. Pp. 96. Price $0.75. New York: E. R. Pelton, 1905.

COME POSSO MANTENERMI SANO E PROLUNGARMI LA VITA? Prof. Giovanni Galli, Assistente nella R. Clinica medica di Roma, 2 Edizione Riveduta E. Aumentata Con 61 incisioni ed I Tavola colorata. Paper. Pp. 590. Price, 5½ lira ($1.05). Ulrico Hoepli, editore, Milano, 1905.

LE MALATTIE SESSUALI. Manuala ad Uso Dei Medici e degli Studenti di Medicina, Dr. Giovanni Franceschini, Direttore del Dispensario Celtico Governativo di Vicenza. Ulrico Hoepli, editore, Milan. Cloth. Pp. 64. Price 2½ lira ($0.48).

A LABORATORY GUIDE IN BACTERIOLOGY for the Use of Students, Teachers and Practitioners. By P. G. Heineman, Sc.B. Cloth. Pp. 143. Price, $1.50 net. Chicago: The University of Chicago Press, 1905.

IGIENE DEL SONNO. Dr. Guiseppe Antonelli, med. chir., ufficiale sanitario di Farnese. Con une tavola. Ulrico Hoepli, Editore, Milan, 1905. Cloth. Pp. 64. Price 2½ lira ($0.48).

SQUINT, Its Causes, Pathology and Treatment. By C. Worth, F.R.C.S. Second Edition. Cloth. Pp. 231. Price $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1905.

NEW PATENTS.

RECENT PATENTS OF INTEREST TO PHYSICIANS.

790353	Irrigator for urethral or other cavities. Everett S. Estlingen, San Francisco.
790626	Infusion device, Mary H. French, New York.
790527	Bandage roller, Ellis F. Frost, Washington, D. C.
790726	Chair, bed, couch, or the like for use in surgical operations or examinations, Pierre A. Gayon, Paris, France.
790359	Truss, George L. Gerard, New Haven, Conn.
790701	Sanitary appliance, James H. McCall, Columbia, Tenn.
790588	Invalid-bed, Wm. McLennan, Buffalo, N. Y.
790655	Medical ozonizer, Marius Otto, Paris, France.
790318	Atomizer, Walter Sams, Chicago, Ill.
790601	Making camphor, Karl Stephan and P. Hunsalz, Berlin, Germany.
791128	Ligature container, Perry S. Bauer, Chicago, Ill.
791322	Surgeons' needle holder, Henry Clayton, Philadelphia, Pa.
791354	Catamenial appliance, Mary S. Merkley, Brooklyn, N. Y.
791295	Invalid bed, Walter C. Sennett, Portland, Me.
790928	Emasculator, Oliver C. Sheppard, Centerville, S. D.
791058	Massage machine, George F. Trotter, Louisville, Ky.
791233	Treating rheumatic or other diseases, Casimir Wolpers, Chicago, Ill.
791232	Apparatus for treating rheumatic or other diseases, Casimir Wolpers and T. F. Barrett, Chicago, Ill.
791862	Sterilizer for barbers' use Ernest O. Bauer, Valatie, N. Y.
791863	Device for the production of the circulation of water in warm-water bags, Moriz Bauer, Vienna, Austria-Hungary.
791802	Hypodermic syringe, Justin De Lisle, New York.
791468	Nebulizer, Olin Q. Holman, Chicago, Ill.
791490	Sterilizer for surgical instruments, Jean Parmentier, Paris, France.
791840	Sterilizer, Henry W. C. Thomas, Valatie, N. Y.
792305	Hernial truss, Francis B. Allshouse, Chicago, Ill.
792407	Support for the treatment of injured legs, Wendel Emge, Hohentengen, Germany.
792227	Firemans' respirator, Wm. F. Merryman, Denver, Colo.
792148	Lotion, Ernesto Monteleone, Jersey City, N. J., and V. Cesareo, New York.
792230	Hot-air inhaler, Norman K. Morris, Denver, Colo.
792544	Sanitary sweeping compound, James Newman, Washington, D .C.
792162	Electric osteophone, La Forest Potter, New York.
792299	Syringe, Samuel M. Weaver, Cleveland, Ohio.

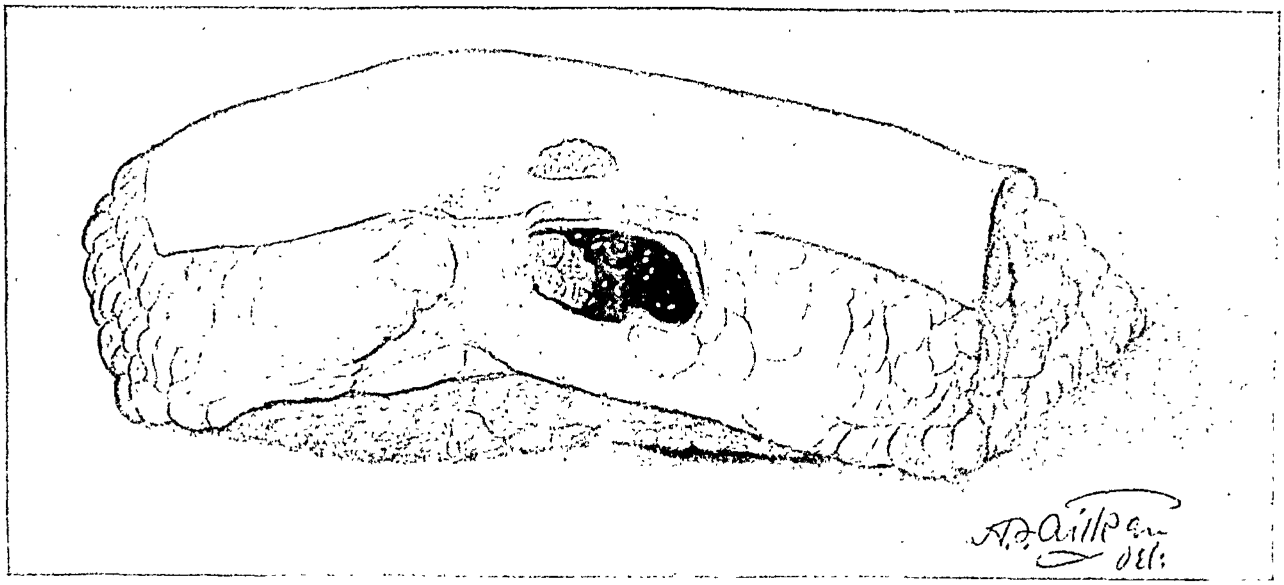


Fig.1.—Adenocarcinoma and papillary cyst-adenoma. Gross appearances. (See oration on Surgery by Dr. Warren in this issue.)

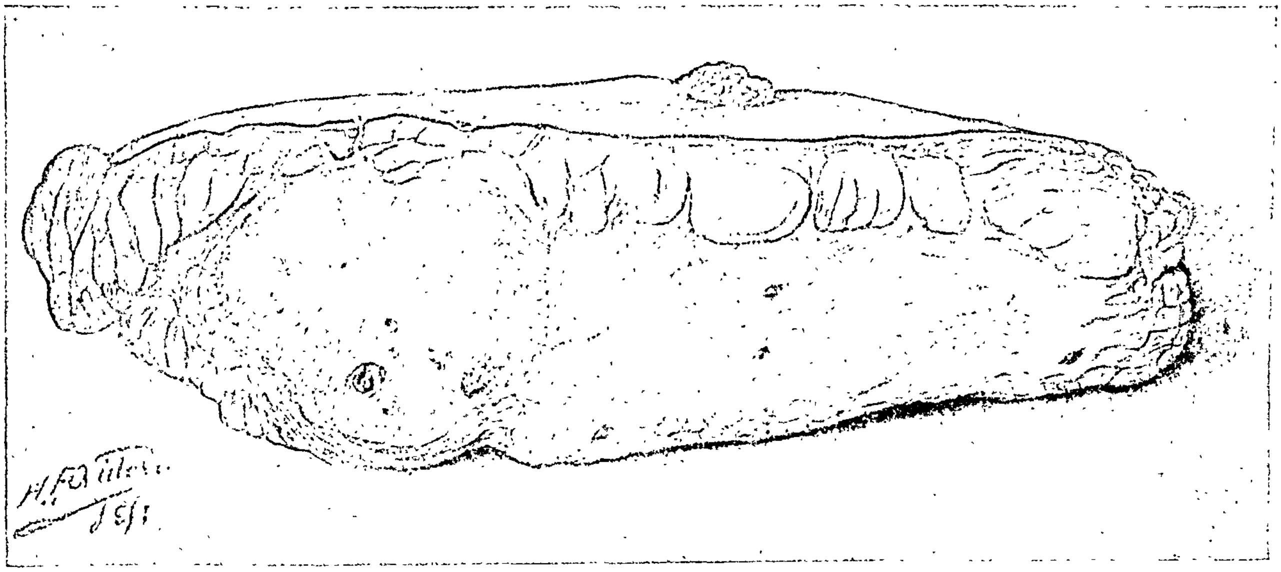


Fig. 2.—Adenocarcinoma and abnormal involution. Gross appearances.

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Address

THE AMERICAN MEDICAL ASSOCIATION: ITS ORIGIN, PROGRESS AND PURPOSE.

PRESIDENT'S ADDRESS, AT THE FIFTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT PORTLAND, OREGON, JULY 11-14, 1905.

LEWIS S. McMURTRY, A. M., M. D.,
LOUISVILLE, KY.

Both established usage and the by-laws of this Association require the presiding officer to deliver annually an address touching such matters as he may deem of importance. In the early years of the Association the President's address was devoted to an epitome of the progress of medical science in its various departments during the preceding year. Since distinguished orators are now selected annually to perform this important service, the President's address may be more appropriately directed to subjects relating to the general welfare of the profession and to the purposes for which this great organization was established.

The annual session of the American Medical Association is always an occasion of special moment and universal interest to the medical profession of America. That several thousand physicians from all sections of our broad country assemble annually for the advancement of medical science and the elevation of our profession is a splendid testimonial to the earnestness of professional achievement and aspiration. The occasion cannot but command the respect of all who are concerned in the progress of science and the betterment of the human race. The spirit which pervades such an assemblage is the desire for improvement, for the increase of scientific resources, and for the diffusion of medical knowledge. Closely related to these ennobling purposes is that social instinct of our profession, which would elevate and be elevated by interchange of views resulting from common experiences, and by mingling together in pleasant friendly intercourse. Happily our present meeting is held under ideal conditions for the exercise of all the functions of such an organization. Perfect harmony prevails. The differences which at times have divided us have all been satisfactorily adjusted; and we are to-day as one man in our united effort to advance the science of medicine, to enlarge the scope of its beneficence, and to promote the welfare of our profession.

Since our meeting at Atlantic City one year ago, many of our members have ceased their labors and passed to the great beyond. The list is a long one. Among the number is that of Nathan Smith Davis. He was one of the founders of this Association, an ex-president; a member of the Board of Trustees, the first editor of The Journal, and for years a power for good in its affairs. He lived beyond the time allotted by the Psalmist, and all his years were filled with labor and with honor. I will not undertake at this time to estimate adequately his great services, or appropriately to pay tribute to his memory. This will be done later in the session by one better prepared than I to eulogize our departed leader.

At our last session, Dr. B. C. Pennington of Atlantic City was chairman of the Committee of Arrangements. He was honored with the fourth vice-presidency in recognition of his ability, his high professional standing, and his devoted services to this Association. His name, too, is now found among the year's honored dead. A cultured gentleman, a learned and accomplished physician, his memory will ever remain as an inspiration for high ideals and noble endeavor.

EARLY YEARS.

When the American Medical Association was organized in 1846 it is doubtful if there were more than 25,000 physicians in the entire United States of America. It was organized as a representative body, composed of delegates from affiliated societies, colleges, and hospitals throughout the states. It was a body of delegates from all state, district, county and other medical societies which adopted the code of ethics of the national association. The apportionment of delegates was on a basis of one for every ten members of the societies represented. For a number of years the delegate body thus constituted was not too large for the discussion of important subjects and the ready transaction of business.

With the rapid increase in population, the admission of new states to the Union, and the settlement of new territories, came a vast increase of physicians, with a corresponding multiplication of state and county societies. Without change in the apportionment of delegates, the national association developed into a body too large and unwieldy for the transaction of business. Indeed, during the latter years under the original system of organization, practically every member in attendance on the annual sessions was a delegate. While the work of the sections was carried on with increasing excellence, the important functions relating to legislative and other matters, belonging to a great national organization of the medical profession, were neglected. The general sessions brought together hundreds of delegates, forming a convention so large that thorough discussion of important questions and judicious action on the same became practically impossible. Moreover, the delegates attending the annual sessions constituted a body annually changing in personnel; and the sources of attendance changed with the sections of the country in which the meetings were held. In consequence there could be neither that equal representation of all sections which must obtain in a national body, nor continuation of work from year to year along definite lines.

THE SECTIONS.

During these early years it was the steady improvement in the work of the sections which drew the best element of the profession to the annual sessions. Many leaders of the profession in the various states attended the sections in which they were interested, and took no part in the proceedings of the general meetings. The sections have now reached such a high degree of efficiency that they have attained the standard so much desired, and rank as leading special national societies in the several departments of medical science which they represent.

As chairman of the Committee on Sections and Section Work, I have carefully studied the workings of the sections. As a result of this experience, I would repeat the recommendation of my distinguished predecessor in this chair, that the secretary of each section should be elected for a term of years. No national society can maintain its efficiency which changes its secretary annually. And again, I would suggest that the officers of the several sections meet together in conference as soon as practicable after the adjournment of the session at which they are elected, in order that definite plans may be formulated for the scientific work of the next annual session. The conference of section officers in New York last November contributed much toward the development of the admirable scientific program now before you for the present session.

It should be the aim and purpose of every member of this Association to aid the officers of the sections in elevating continually the standard of scientific work. Every American physician may have pride in the work done year after year in the sections of this Association.

THE JOURNAL.

It would be a difficult task were we to undertake a definite estimate of the influence of The Journal in the great work which this Association has accomplished during the past two decades. When it was decided to discontinue the annual volume of transactions, and to establish a weekly journal, the change was viewed with apprehension by many. The influence of this publication, the property of the Association, in stimulating research, diffusing knowledge, elevating professional thought and conduct, and building up this great organization cannot be computed. This part of my discourse is so replete with suggestion, that I fear the time and space at my command will not permit such consideration as should be devoted to it.

The volumes of The Journal mark the steady and continued growth of the Association, and likewise bear testimony to the fact that The Journal itself has been a potent factor in that growth. Under the judicious direction of the Board of Trustees The Journal has steadily advanced as a scientific publication. By the untiring daily services of the present able Editor, it has leaped into the very front rank of scientific publications, and in all that a great weekly medical journal should be it has no superior in the world. The power exerted by such a publication as a medium of communication among the members of the Association is inestimable, to say nothing of the other more important functions performed by a great weekly journal. It has been the most potent instrument in building up this Association to its present proud position as the largest medical organization in the world. No other American medical periodical has a circulation so distinctly national, and no other journal can sustain the same relation to the great body of the medical profession. It is a great engine whose power is constantly increasing, constantly extending. With such increased power comes increased responsibility, much of which rests with the House of Delegates in the selection of proper men to fill the responsible places of the trustees. No other office should be regarded higher in honor than that of the trustees, as no other affords greater scope for unselfish labor and efficient service to the Association. Under the conditions of our organization more power is invested in this board than the combined power of all other officers.

THE NEW ERA.

At the annual session of 1900 a committee on reorganization was appointed, and one year later, at St. Paul, the report of the committee was submitted and adopted. It included a new constitution, which altered the basis of apportionment for delegates, so as to reduce the delegate body to 150, and definitely established a close relationship between the national organization and the state, district and county societies. For the first time a practical scheme of complete organization of the medical profession of the United States was provided. This is the fourth annual session held under the new plan o forganization.

Previous to the reorganization, the valuable scientific work of the sections constituted almost the sum total of the effective work accomplished by the Association. Matters appertaining to medical education, to the public health, to national legislation, and to the welfare of the profession received no deliberate consideration; and in consequence no decisive action was carried out. This condition existed for the reasons already mentioned. In a word, the very objects and aims for which the Association was organized were thwarted by the growth of the Association into an unwieldy delegate body. Under the reorganization, the House of Delegates, in which the membership of the state societies is proportionately represented, now gives deliberate consideration to those important matters, already indicated, which under the former organization were neglected.

The influence of the revised plan of organization was immediately apparent in the increased attendance at the annual sessions, and the stimulus felt in every purpose of the Association. And each year this influence has grown, until some idea can now be formed of the great possibilities to come from organization on a definite and practical plan. The good results to accrue to the profession as a whole, and to every member as an individual, are so positive that no subject can deserve more careful consideration by this body than that of medical organization. Indeed, it is the fundamental question before us, and on its decision depend the results of all our other efforts in all directions.

In order that we may thoroughly appreciate the origin and purposes of the Association, and thereby be better prepared to meet its present and future requirements, I have very imperfectly outlined the history of its earlier years. During the more than half century of its existence it has always brought to its councils the ablest and best men in the profession of America. Among its leaders from the beginning are found the most eminent physicians and surgeons of the day. In the list of its active members are the names of Samuel D. Gross, Paul F. Eve, Austin Flint, Marion Sims, N. S. Davis, Alfred Stillé, Lewis A. Sayre, and many others which adorn the annals of American medicine. It has from the beginning been a great power with the profession of America. Its greatest influence, as I have already indicated, was in the growth and diffusion of scientific knowledge through the splendid work of the sections. In elevating medical education, in promoting legislation, and advancing the powers of public health organizations its influence was most felt in the development of a helpful public professional opinion. The extension of the influence and advantages of organization to the masses of the profession was gradually lost sight of in the annual meetings, and the work relating to matters of public policy was spasmodically considered and imperfectly executed. Whatever was accomplished along these lines worthy of mention was the work of committees. The necessity of reorganization was appreciated by the leading members of the Association long before it was accomplished. In 1888, Dr. N. S. Davis as chairman of a committee appointed for the purpose, reported a scheme of reorganization very similar to that adopted in 1901 at St. Paul.

ORGANIZATION.

> "The object of this Association shall be to federate into one compact organization the medical profession of the United States, for the purpose of fostering the growth and diffusion of medical knowledge, of promoting friendly intercourse among American physicians, of safeguarding the material interests of the medical profession, of elevating the standard of medical education, of securing the enactment and enforcement of medical laws, of enlightening and directing public opinion in regard to the broad problems of state medicine, and of representing to the world the practical accomplishments of scientific medicine." (Article II, Constitution of the American Medical Association.)

If every physician worked alone, relied on his own unaided observation for his knowledge, never looking outside his own scope of view, ignorance would prevail and there would be no progress in medical science. Medicine is not an exact science, and until perfected by extorting from Nature all her secrets, it must from the nature of things continue to be a progressive science. Never before in the history of medicine has such marked progress in all its departments been made as during the present age. Theories have been supplanted by facts; laboratory research and clinical investigation have taken the place of tradition and authoritative opinion. To rely on the accomplishments of the college period is to be left behind in hopeless incompetency. The advance of medical knowledge is to be observed first in our medical societies, and afterward in our scientific medical journals. In the medical societies innovations are subjected to criticism and discussion by those competent to judge the merits of scientific contributions. Moreover, there is a stimulus to study and investigation from association with workers in the same field; and one obtains a broader view of every subject so considered. The physician, more than any other professional man, is isolated by the conditions of his life, and to no profession is the educating influence of society work so essential and invaluable. This same condition of isolation is at the foundation, for the most part, of the jealousies and petty bickerings so prevalent in our profession. These troubles are, as a rule, the result of misunderstandings, and are both prevented and corrected by coming together in a society composed of physicians. The lonely worker in any calling is prone to become narrow, suspicious, and morbid. Our medical societies are the great post-graduate schools of the profession, where knowledge is increased and individual character developed.

But the promotion of scientific investigation, and the diffusion of medical knowledge are not the only objects of organization. Our profession has a most essential and important duty in relation to the public health. Through no other agency can municipal, state and national health authorities formulate and secure recognition of laws to prevent and control disease. Another duty no less essential is so to regulate and to control medical education that the ignorant and unworthy shall not be admitted to the privileges of the profession, thereby preserving the time-honored standard of professional honor and scientific capability. In this age of organization, without it the profession is powerless to secure the enactment of humane sanitary laws, by which alone the people can be protected from preventable diseases. The welfare of the profession, collectively and individually, can only be subserved by organization. Without such organization, our profession, as a body politic, will be without unanimity of sentiment or action in relation to the important scientific, ethical, and social questions which confront us; and consequently without influence politically, socially or otherwise.

In the declaration of the constitution adopted at St. Paul, which I have just quoted, the American Medical Association has undertaken to place within reach of every reputable medical practitioner in the United States these incalculable advantages of medical organization.

The Committee on Reorganization appointed in 1900 has treated this subject in a masterly manner. After a careful study of the condition of the profession throughout the states with relation to organization, reports have been made to the Association showing the needs of the profession and the extent of the work required. A uniform plan of organization for state and county societies, making the county society the unit of organization, and federating all state societies in the national association in harmonious co-operation, has been prepared by the committee. The able chairman of this committee has with remarkable tact, patience, and good judgment given his personal supervision to this great work in almost every state and territory. In his latest report it is announced that all the states and territories, except three, and including Hawaii and Porto Rico, are now organized on a practically uniform plan, with universal local societies, and coincident membership in them and the state associations as the cardinal feature. To illustrate the magnitude of this work, I mention that, under the stimulus of reorganization after the plan of the committee, the Michigan State Medical Association increased in membership in one year from 452 to about 2,100. Texas increased the membership in the same time from 382 to 2,510, while several states quadrupled their membership. While these results are phenomenal, and elicit our admiration, it will be realized how much remains to be done when it is considered that few of the states have over 50 per cent. of the eligible members of the profession enrolled as members of the society. Indeed, the work is yet almost in its infancy. What has been accomplished is an assurance for the future; and considering the brief time since reorganization began, is a high tribute to the enterprise of the national association and the work of its able and efficient committee. The possibilities of this work are stupendous, and as it proceeds the Association can confidently undertake the great reforms of such incalculable moment to the profession and the public. In his official report to the House of Delegates one year ago, the chairman of the Committee on Organization, after reporting the splendid results of his labors during the year, said:

> The real test of our organization will come in each state when the first out-burst of enthusiasm has passed, and county societies, the foundation for everything, are likely to disappear as rapidly as they have been formed, unless their usefulness to the rank and file of the profession can be demonstrated in a very broad way.

In recognition of this fact, it is of the utmost importance that the personal attention so effectively given to this work throughout the states by the chairman of the committee be continued.

MEDICAL EDUCATION.

When the American Medical Association was founded in May, 1846, the delegates assembled in response to the following preamble and resolutions of the Medical Society of the State of New York:

> WHEREAS, It is believed that a national convention would be conducive to the elevation of the standard of medical education in the United States, and
>
> WHEREAS, There is no mode of accomplishing so desirable an object without concert of action on the part of the medical societies, colleges and institutions of all the states, therefore be it
>
> *Resolved,* That the Medical Society of the State of New York earnestly recommends a national convention of delegates from medical societies and colleges of the whole union, to convene in the City of New York, on the first Tuesday in May, in the year 1846, for the purpose of adopting some concerted action on the subject, set forth in the foregoing preamble.

From this it is apparent that this Association was founded with the avowed and specific purpose of elevating the standard of medical education in this country. This subject has constantly received consideration from the Association throughout the years of its existence; and while no distinct and positive reform marks its action, the perpetual demand for improvement undoubtedly moulded the public sentiment of the profession which ultimately stimulated action on the part of the medical colleges. Since the addresses of my two distinguished predecessors, who immediately preceded me in this chair, were devoted to the consideration of medical education, I shall only make brief allusion to this subject. The several national organizations and the many state boards which are now dealing with this important professional problem invest the changing conditions with peculiar interest. The present is a transition period in the advancement and reform of medical education in America.

The consideration of this subject in the House of Delegates culminated in the establishment last year of the Council on Medical Education of the American Medical Association. During the past year the council has taken up its work with exceptional energy and good judgment, and is directing its efforts along most practical lines. The first annual conference was held in Chicago April 20th last. Representatives of many state examining and licensing boards, of the American and Southern Medical College associations, and of the government medical services, attended and participated in the discussions of the papers presented. The plan and scope of the work of the council can be best appreciated by a consideration of this extract from the address of the distinguished chairman of the council delivered to the conference:

> What we need is co-operation, especially the co-operation between the medical profession, represented by the American Medical Association, and the state and county medical societies, and the state authorities, represented by the state licensing and examining boards. The most important question, therefore, before this conference is, How can the American medical profession and the state licensing bodies co-operate to elevate and control medical education? It is believed that such co-operation is possible. In such co-operation it will be the function of the American Medical Association to represent and possibly mold the opinion of the medical profession, and employ its influence and the influence of the county and state medical societies in obtaining proper medical legislation. In such co-operation it will be the function of the state licensing bodies to protect the interests of the public and the profession by seeing that the medical laws are properly interpreted and enforced, and from their intimate knowledge with the medical acts they can often be of service in securing or modifying medical legislation.
>
> It is not the purpose of the Council on Medical Education of the American Medical Association to attempt to arrogate to itself any special powers, nor does it desire either to criticize or interfere in any way with any of the agencies which are already in the field. If its creation is to result in good, it must be the means of obtaining co-operation between the medical profession, and the medical schools, the colleges of arts, the state examining boards, the government services, and all the factors which are interested in elevating and controlling medical education.

By securing co-operation of the various state and national bodies engaged in this important work, recognizing the varied interests involved in the numerous states of the Union, and fostering an intelligent public sentiment, so essential for every great reform, the influence of the Association will be of the most effective character.

MEDICAL LEGISLATION.

Chapter VII., Section 3, of the by-laws provides a permanent Committee on Medical Legislation "to represent before Congress and elsewhere the wishes of this Association regarding any proposed legislation that in any respect bears on the promotion and preservation of the public health, or on the material or moral welfare of the medical profession." This committee was appointed in 1903, and under the leadership of its accomplished and energetic chairman proceeded at once to organize the auxiliary committee provided in the by-laws. This being a permanent committee, its work will be continued from year to year. With the auxiliary committee, representing every state in the Union, and the several medical departments of the Government service, every representative of the people in Congress can be reached directly. The importance of this work is so apparent that I need only call attention to it at this time, and urge on all members of the Association the necessity of aiding and co-operating with the committee at all times. The disregard of the good work of the medical profession in the public service (to say nothing of the indignities offered) on the part of Congress is notorious; and it is only by such concentrated power of the profession, intelligently directed, that such injustice may be overcome. I commend to your consideration the report of this committee in order that you may appreciate the important work already projected.

COUNCIL ON PHARMACY AND CHEMISTRY.

The use of proprietary medicines in the treatment of diseases has become one of the most confusing and demoralizing questions of the day. All proprietary medicines must not be classed as secret nostrums, for there are many honestly made and ethically advertised proprietary preparations that have therapeutic value and that deserve the approval of the medical profession. But there are many preparations offered the profession, which are protected by copyright or trade-mark, with formulæ more or less fictitious, and for which are made extravagant claims, which are in fact secret remedies. These preparations are so exploited by the manufacturer that the physician is persuaded to use them instead of writing a prescription; and since they usually bear popular names and plausible therapeutic claims, they appeal to the fancy of the laity. The field is an enticing one for commercial enterprise since these preparations in many instances are simple mixtures and contain the most inexpensive drugs. The use of such remedies is both unscientific and unjust, alike to physician and to patient.

The separation of the legitimate pharmaceutical preparations from the class of fraudulent nostrums described is a most difficult undertaking. This perplexing problem forced itself from year to year on the attention of the Board of Trustees in the effort of the board to keep the advertising pages of The Journal free from unethical advertisements. In order to have thorough protection and to make no unjust discrimination, the board has established the Council on Pharmacy and Chemistry to make the necessary investigations. The council is composed of pharmacists and chemists of national and international reputation. It will be the aim of the council to publish in book form, a list of the preparations which are not officinal, yet which conform to the proper ethical standard. The work of the council will be similar to that of the Committee on Revision of the United States Pharmacopeia.

The magnitude and importance of this work is such that I desire to direct attention to it here, and to commend it to the members of the Association as deserving every possible aid and advancement. It is the only practical way to deliver the profession from one of the greatest curses that ever came on it.

It has been my endeavor on this occasion to outline the plans of the founders of the Association, briefly to trace the evolution of those plans throughout half a century of progress, and to recount some of the purposes that invite our active exertions at the present time. From a small body of delegates our Association has increased until it is now the largest medical organization in the world. It owns valuable property, has accumulated a considerable fund, and has a large annual income, all of which belongs to, and is subject to the control of, the members who through their delegates select the Board of Trustees to manage their funds.

The possibilities of the work before us are almost beyond calculation. In acting as the representative and agent of the 120,000 physicians of the United States, the Association is assuming great responsibilities, which will increase from year to year. It will require administrative and executive ability of the highest order to meet these demands; but there is both prophecy and proof in the work already accomplished that men will appear as needed to discharge the supreme duties of a great profession in behalf of science and humanity.

Organization.—If we will maintain our organization in societies as developed in the natural evolution of progress, we will be stronger in the community and more likely to take the place which belongs to us in society.—Williams, in *Journal of the Michigan Medical Society.*

Orations

THE SURGEON AND THE PATHOLOGIST.

A PLEA FOR RECIPROCITY AS ILLUSTRATED BY THE CONSIDERATION OF THE CLASSIFICATION AND TREATMENT OF BENIGN TUMORS OF THE BREAST.

ORATION ON SURGERY AT THE FIFTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, PORTLAND, OREGON, JULY 11-14, 1905.

J. COLLINS WARREN, M.D.
BOSTON.

SYNOPSIS.

1. Introduction: Subject of paper. Confusion of nomenclature. National and local differences. Differences between clinician and pathologist. Need of co-operation. Clearing house.
2. Material: 658 consecutive cases of chronic disease of breast in M. G. H. 100 cases from private practice (70 diagnoses in 199 cases of benign breast tumor in M. G. H.).
3. Classification: Normal anatomy of breast. Relation to tumors and diseases. Classification offered. Variation from other classifications.
4. Carcinoma: 517 cases. Proportion to other tumors, 68 per cent. (70 per cent., M. G. H.) (58 per cent., J. C. W.). Varieties. Age incidence. Occurrence with or resulting from benign tumors and diseases, as Involution, papillary cyst adenoma, periductal fibroma, Paget's disease.
5. Fibro-Epithelial Tumors: Fibrous Group. Periductal tumors. Fibroma, myxoma. sarcoma. Frequency. Pathology. Clinical symptoms. Diagnosis. Course. Prognosis. Treatment.
6. Fibro-Epithelial Tumors: Epithelial group. Cyst-adenoma. Fibro-Cyst-Adenoma: Rare. Epithelial exaggeration of periductal fibroma. Pathologic symptoms. Treatment. Papillary Cyst-Adenoma: Pathology. Symptoms. Prognosis. Treatment.
7. Hyperplasia. Diffuse Hypertrophy: Two varieties. Rare. Relation to pregnancy and to genital abnormalities. Pathology. Symptoms. Treatment.
8. Hyperplasia. Abnormal Involution. "Chronic Cystic Disease." Historical. Synonyms. Pathology. Cystic and proliferative. Types of proliferation. Symptoms. Course untreated. Prognosis. Treatment.
9. Chronic Inflammation: Chronic abscess. Ductal mastitis. Relation to lactation. Symptoms. Course. Pathology and Treatment. Galactocele.
10. Single Retention Cyst: Mechanical origin. Rarity. Symptoms. Confusion with abnormal involution.
11. Non-Indigenous Tumors of Breast: Sarcoma. "Solid sarcoma." Rare. No relation to breast. Symptoms. Diagnosis. Treatment. Lipoma. Retro-mammary. Symptoms and treatment. Lymphangioma.
12. Supernumerary Breasts: Occurrence. Situation. Tendency. to tumor formation.
13. Treatment of benign tumors of the breast. "Plastic resection." Indications. Method. Results.

In selecting a subject in a special department of medicine which should be of interest to the great body of members of this Association, it has occurred to me that the discussion of the diseases of the mammary gland would be appropriate, as the classification of the diseases of this organ is at present in a more or less unsettled state, and the operative treatment of many of the benign lesions of the breast is a subject which is still open to discussion.

The great impetus which laboratory work has received in recent years in the various medical centers of this country is evidence that the interest taken in the scientific side of medicine has progressed steadily since the awakening of modern pathology in the middle of the last century. American physicians have proved themselves apt pupils, and the beginnings of the generation which is now passing off the stage have already borne fruit which one can not regard otherwise than with satisfaction. The time has already arrived when we in this country are no longer content to receive the dicta of science at second hand, but feel quite competent to take the initiative on ourselves, as our many substantial contributions to medical science amply show. Indeed, I feel convinced that the very practical side of our national character is a most valuable quality in enabling us to unravel some of the more complicated questions which have been left unsolved by the foreign scientists. The laboratory workers' range of vision, however, is often at best but microscopic, and it is no wonder that, unaided, he sometimes misinterprets the changes rung by nature on some simple theme. Without the laboratory worker's aid, however, the clinician becomes swamped in a mass of clinical detail from which alone he has again and again been unable to extricate himself. There can be little question that the combination of energies which accomplishes most in surgical progress is that obtained by the coöperation of the laboratory investigator with the surgeon of clinical experience. Too long have these two departments of medicine conducted themselves independently and, as I feel, greatly to the disadvantage of them both. The clinician and the laboratory man, however, in these days of specialism seem sometimes in danger of drifting even further apart, and we find some of the modern problems sadly in need of a pathologic "clearing-house" to put things on a more practical basis. This, it seems to me, is the moral which must be read between the lines of the paper which I have the honor to present.

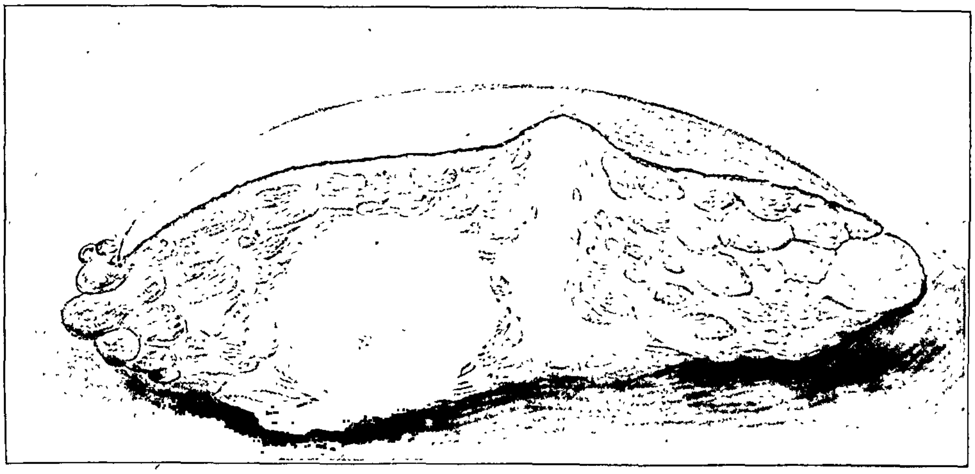

Fig. 3.*—Periductal fibroma. Gross appearances.

In no department of surgery has the classification of the diseases of an organ or the pathologic nomenclature been more confusing than in the case of the diseases of the mammary gland. Not only has the nomenclature of the diseases of the breast been subject to that continual revision to which all medical terms are liable with advancing knowledge, but in this case national and even local systems have added again to the confusion. The French school, the German, the English and the American schools of medicine rarely agree in their description of any tumor of the breast other than carcinoma, and in the case of the inflammatory or involution changes of the breast the variations in nomenclature are notorious. In view of the always horrible possibility of cancer, however, no woman can regard a lump of any size, shape or consistency in the breast with equanimity, and in no organ does the presence of disease in its earlier stages furnish fewer data for accurate diagnosis. The cry for aid and comfort is always an urgent one, and it behooves the surgeon, therefore, and the general practitioner as well, to be in a position to meet the demand for accurate information with an intelligent and harmonious reply. Such a statement can be furnished only by bringing the modern views of the pathology of these diseases into focus with the clinical pictures which they present. In the hope that I may pave the way for the clinician and the pathologist to "get together" and to put the classification of diseases of the breast on a more intelligible and practicable foundation, I have selected this field of surgery for your consideration.

The material which has served as a basis of this investigation includes, in all, 758 cases of diseases of the breast; 658 cases were taken from the records of the Massachusetts General Hospital.[1] The diseases of the male breast were purposely omitted from this table of cases, and of the total number of cases of diseases of the female breast 10 were omitted because of insufficient data to establish a diagnosis. Acute mammary abscess was also excluded from consideration. With these exceptions all cases of disease of the mammary gland are included which entered the Massachusetts General Hospital during the decade from 1895 to 1905. One hundred additional consecutive cases of disease of the breast have been obtained from my own private practice, making up the total of 758 cases of all varieties with which we have to deal. Pathologic reports were available in nearly every case, and in many instances the actual specimens could be obtained and were used for further study and for purposes of illustration. Four hundred and fifty-nine of the hospital cases and fifty-eight of the cases in private practice were cancer of the breast. These were included for purposes of comparison and in order better to establish the significant data for diagnosis. The greater part of the study, however, has been

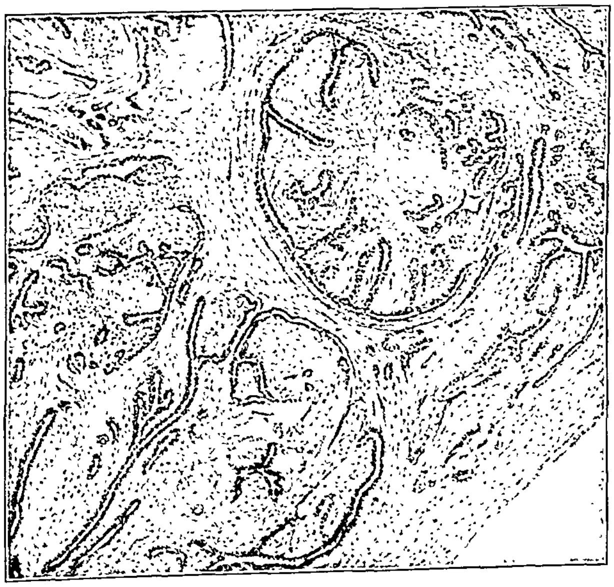

Fig. 4.—Periductal fibroma. Microscopic appearances.

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* Figs. 1 and 2 compose the frontispiece facing page 145.

[1] Collected and analyzed by Drs. R. B. Greenough and C. C. Simmons, whose valuable assistance in the preparation of this classification I wish here to acknowledge.

devoted to the benign diseases of the breast, 42 in private practice, 199 in the hospital series—a total of 241 cases of benign diseases of the breast. These are exclusive of re-entries or of cases in which two diseases of different types occurred. As an instance of the confusion in nomenclature I might here state that in 199 cases of benign disease of the breast occurring in the Massachusetts General Hospital in ten years, 70 different pathologic diagnoses appeared on the record books.

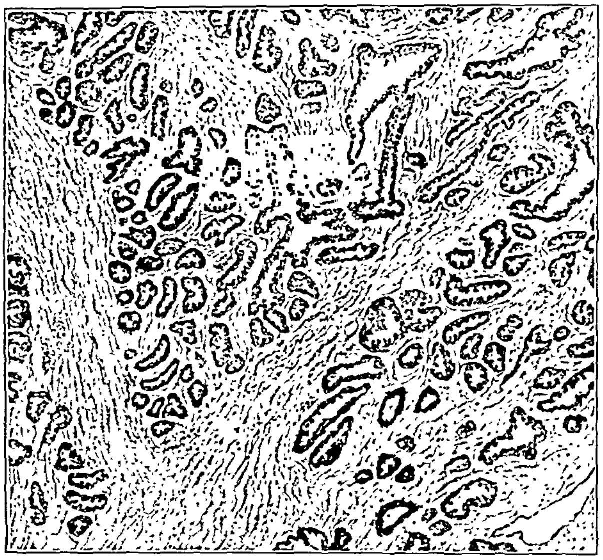

Fig. 5.—Fibro-cyst-adenoma. Microscopic appearances. (Note cyst cavities and exuberant growth of epithelial ducts in lobular arrangement in a stroma of periductal tissue. Gross appearance of this tumor similar to Figure 3.)

Before taking up the question of classification of the benign tumors of the breast, I would like to call your attention to some anatomic peculiarities of the mammary gland which distinguish it from any other organ in the body. At no time during the various periods of its life history does it have an enduring type of anatomic structure. At birth the gland is represented by a series of radiating ducts with club-shaped extremities, but with no well-developed acini. The epithelium of these ducts is often in a state of active proliferation, causing swelling and tenderness of the gland, with ectasia of the ducts and supposed inflammation (acute mastitis of infants). Infection through the nipple may undoubtedly occur at this time, but in the vast majority of cases the swelling and tenderness are due entirely to the developmental activity of the gland. No material change in the gland takes place from this time until the age of puberty, when the development of the acini first really begins. An enlargement of the breast, with development of considerable tenderness, is often noticed at puberty in males as well as females. The epithelial structures are now beginning to make themselves prominent, but there is also a characteristic change in the tissue immediately around the ducts. The periductal connective tissue becomes transparent and rich in nuclei and presents a strong contrast to the interstitial tissue of the gland. This transparent periductal tissue is peculiar to the mammary gland. It gives the familiar consistency and shape to the virgin breast and enters largely into the new growths of the breast which take origin at this stage of its life history.

At the time of pregnancy another great change takes place in the anatomy of the breast. Now the epithelial activity of the gland is at its height, the acini multiply enormously, the *tree may be said to be in full leaf.* Meanwhile the interstitial tissue becomes stretched and the periductal tissue becomes less prominent. After lactation many of the acini wither and disappear, the interstitial tissue is relaxed and the breast becomes pendulous.

The declining period in the life history of the mammary gland may begin in middle life, and presents a condition which is of great interest to the surgeon. The *breast, as it were, gradually dries up. Change is noticed* especially in the acini and in the interstitial tissue. The epithelium is no longer in a state of active proliferation, but degenerative changes gradually gain the upper hand. Some ducts are choked with epithelial débris, while others are compressed by the contracting interstitial tissue of the gland, and the blood vessels become thrombosed and disappear. Obstruction takes place here and there, and slight dilatation of the small ducts and acini occurs, with induration of the surrounding tissues. If the breast in this condition is gently pressed against the thorax with the flat of the fingers it will be found to contain a large number of small hard nodules. This condition I have described as the "cobble-stone" feel of the breast. It is present in almost every breast at a certain stage of its decline, and should be regarded as a normal condition at this period of the life history of the gland. If the gland is incised these nodules will be found to be composed of fibrous tissue or of small cysts filled with a slightly discolored fluid which derives its hue from solution of the old blood crystals and pigment from the thrombosed blood vessels.

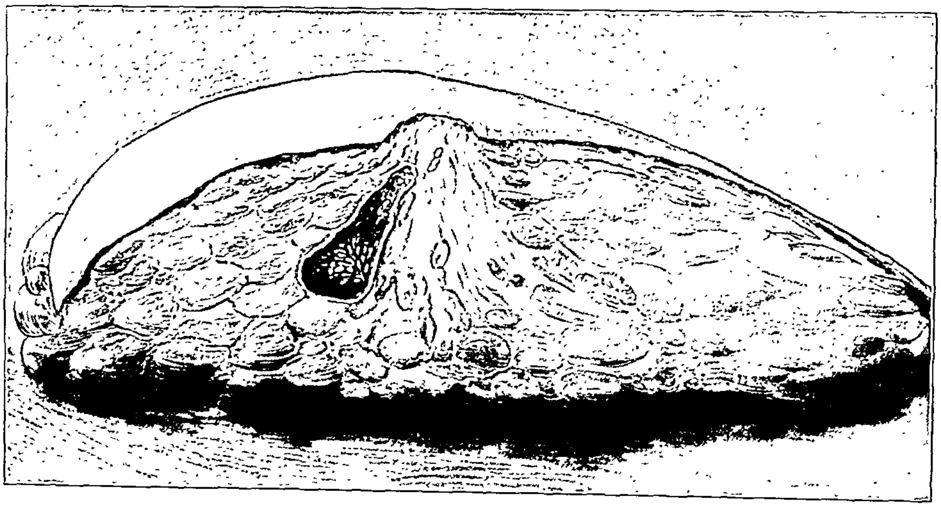

Fig. 6.—Papillary cyst-adenoma ("villous papilloma"). Gross appearances.

The gland tissue is absorbed after lactation[2, 3] and with advancing years, a certain amount of adipose tissue takes its place, and in old age we find the mammary gland represented merely by a few ducts near the nipple and some small strands of fibrous stroma, the meshes of which are well filled with fat. Keeping in mind the anatomic peculiarities of the mammary gland, we find two distinct structures intimately associated with different periods of its life history. I refer to the periductal fibrous tissue so prominent in early life and to the epithelial elements which at certain later periods, as in lactation, attain the perfection of their development. These two structures are so intimately associated one with another that it is impossible for a neoplastic formation to develop without partaking somewhat of the characteristics of both tissues. The periductal fibrous tissue of the gland can not form a tumor without involving, to a certain extent, the epithelium of the ducts. Nor can the epithelial elements grow entirely independent of their fibrous support without placing the growth at once in the category of carcinoma. A consistent classification of the tumors of the breast must, therefore, take into consideration both of these elements, and the term "fibro-epithelial" tumors, suggested by Ribbert,[4] best meets these indications.

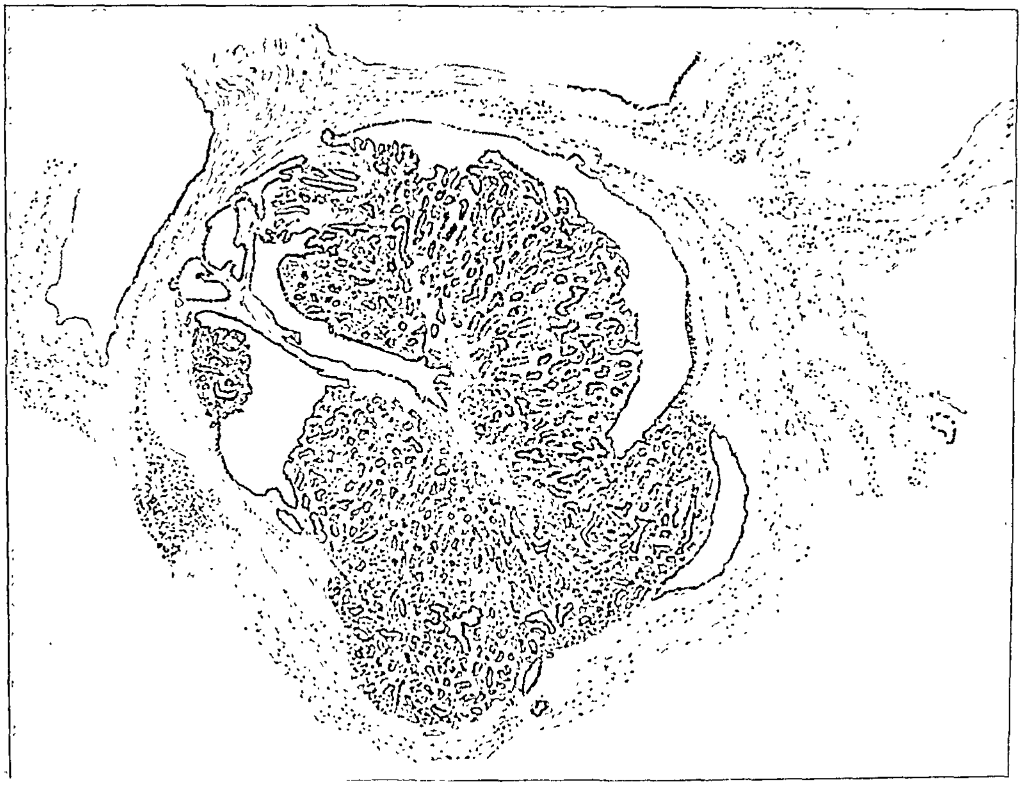

Fig. 7.—Papillary cyst adenoma. Microscopic appearances. (Note exuberant growth of epithelium over papillary outgrowths of connective tissue from the wall of the cyst cavity.

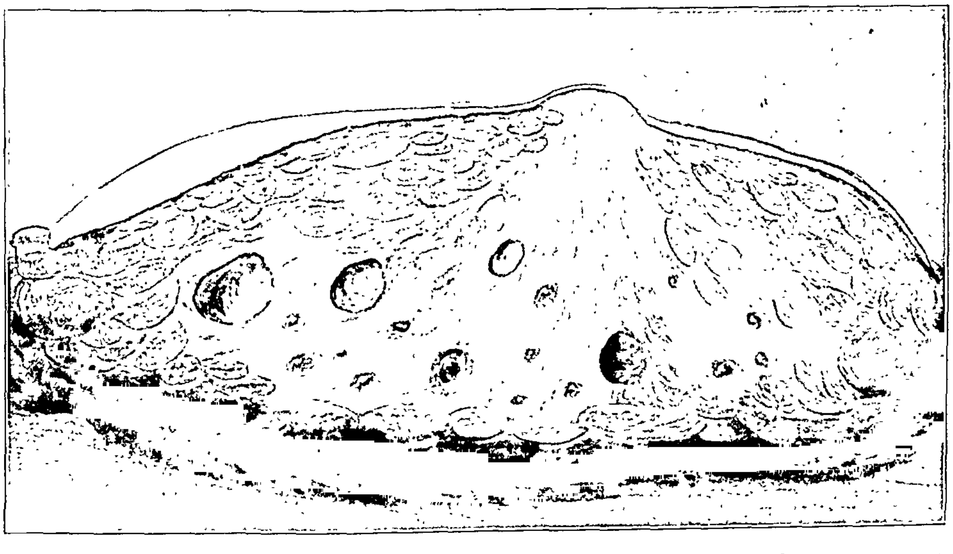

Fig. 8.—Abnormal involution ("chronic cystic disease," "chronic cystic mastitis"). Gross appearances.

Tumors are classified, however, either according to the nature of the tissue of their origin or the tissue which forms their most significant part. In these fibro-epithelial tumors, therefore, certain subdivisions are possible and, indeed, important, according to the tissues which are most seriously involved. A ready distinction is suggested at once between the tumors which are chiefly of a fibrous character and those in which the epithelium is more involved. This distinction, moreover, has an important clinical value, as there is a tendency of the fibrous group toward sarcomatous change and of the epithelial group toward carcinomatous metamorphosis. Under fibro-epithelial tumors of a fibrous character we may thus distinguish three divisions—the periductal fibroma, periductal myxoma, and periductal sarcoma. Those of the epithelial group we can divide into the fibro-cyst-adenoma and the papillary cyst-adenoma. In

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[2] Warren: International Text-Book of Surgery, second edition, vol. ii.

[3] Warren: "American Text-Book of Pathology." "Pathology of the Breast."

[4] Ribbert, H.: "Allgemeine Pathologie," Leipzig, 1901. F. C. W. Vogel.

the tumors of the fibrous group the fibrous tissue is the predominant feature of the tumor, epithelium being present, but playing only a subordinate part. In the epithelial group the fibrous tissue is present also, but merely in sufficient quantity to be regarded as a stroma, the growth of epithelium being the predominant feature of the tumor.

The term hyperplasia I have reserved for those diffuse changes which are characteristic of the breast at certain periods of its life history. From their very diffuse character, these can not properly be placed within the category of tumor formation. They cover not only that common condition which we find so characteristic a feature of the involution stage of the normal breast and which has passed under the many terms of "chronic cystic mastitis," "cystic disease of the breast," etc., but also that rare diffuse hyperplastic growth of all the elements of the gland at the period of highest physical development—"diffuse hypertrophy." The chronic inflammatory processes of the mammary gland present no special difficulties in classification; but they, as well as the non-indigenous tumors of the breast, are included in the table to round out the classification of all lesions, with the exception of acute mammary abscess.

TABLE I—CLASSIFICATION OF 758 CASES OF BREAST TUMOR.

	M.G.H.	Private Cases.	Total	Per Cent.
			517	68
			(86)	(11)
			(70)	(9)
			54	7
2. Periductal myxoma.......	10	2	12	1.6
			4	.5
(2)			(16)	(2)
			4	.5
			12	1.6
	2	0	2	.2
	87	28	115	15
			(28)	(3.7)
1. Eczema of nipple..................	2	0	2	.2
			5	.6
			3	.3
			13	1.7
			5	.6
			(9)	(1.2)
1. Sarcoma..................................	4	0	4	.5
2. Lipoma..	[illegible]	1	4	.5
[illegible]	[illegible]	0	1	.1
[illegible]		1	1	.1
	658	100	758	

The diagnosis of diseases of the breast is undoubtedly the first consideration, and it is for this reason that the cases of carcinoma have been included in the above list and must now receive a brief analysis.

Cancer occurred in 459, or 70 per cent., of all tumors in the hospital cases and in 58, or 58 per cent., of the cases in private practice. The proportion of cancer to other breast tumors was thus greater in hospital cases than in private practice. This is undoubtedly due to the fact that the milder cases of benign tumor are occasionally treated in the out-patient department of a hospital and, therefore, do not enter into this number of cases, whereas in private practice all cases are included. The fact, however, is obvious that cancer forms the great majority of actual growths of the breast, and if the conditions known as abnormal involution are left out of consideration this predominance of cancer over other tumors becomes even more conspicuous.

Paget's disease of the nipple occurred in this number of cases six times in connection with cancer of one or another variety; and eczema of the nipple and areola, similar in every way to Paget's disease, but without evidence of malignancy, was found in two additional cases during this ten-year period.[5]

The forms of cancer which have developed from other benign tumors or conditions of the breast are of special interest to us in this connection. During this period thirteen cases occurred in the hospital and four in the cases of private practice, in which cancer resulted from, or was present in connection with, benign diseases of the breast.

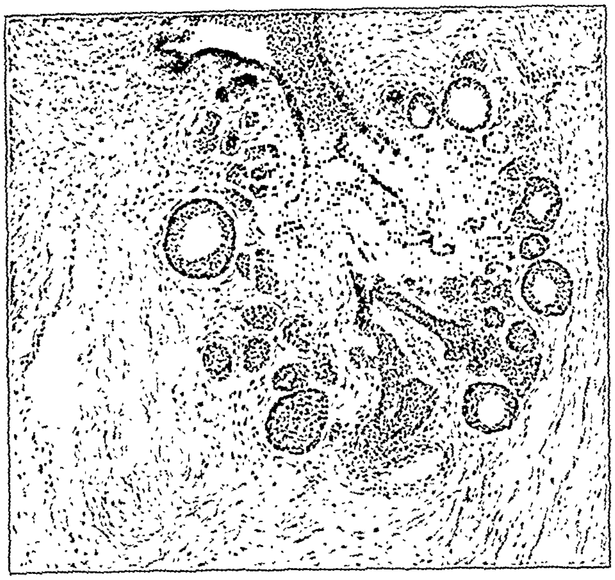

Fig. 9.—Abnormal involution. Microscopic appearances. Acinal type of epithelial proliferation.

The involution changes of the breast are those which accompany or precede cancer more frequently than any other form of benign lesion, and by far the greatest number of cases of this character, show the picture of adeno-carcinoma. Nine cases of adeno-carcinoma and three of medullary carcinoma occurred with abnormal involution. Three cases of scirrhus cancer also occurred

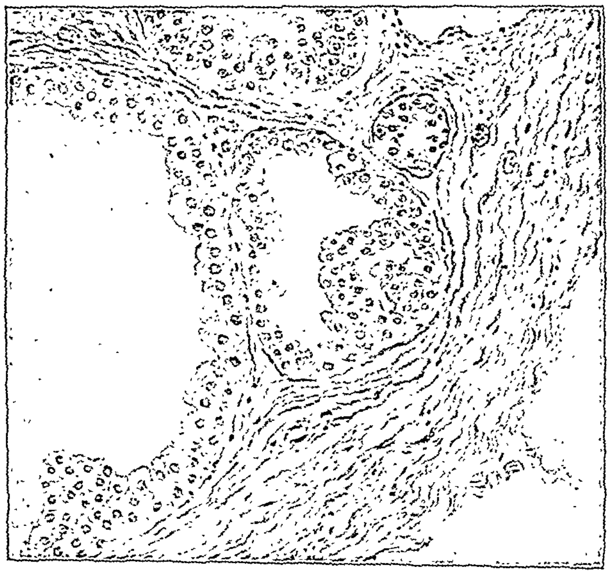

Fig. 10.—Abnormal involution. Microscopic appearances. Papillary and adenomatous types of epithelial proliferation.

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[5] Ehrhardt: Deut. Zeit. f. Chir, December, 1899, vol. liv, p. 130.

which presented the lesions of abnormal involution. In the hospital series also two cases of adeno-carcinoma occurred in connection with tumors of the papillary cyst-adenoma type. The significance of these cases of cancer will be especially considered under the discussion of the benign tumors of the breast.

The age incidence of the different tumors and diseases of the breast is a matter of considerable importance in diagnosis. I have arranged Table 2 to show the number and percentage of cases of the different lesions occurring in each decade of life.

TABLE II—Incidence of Breast Tumors by Age Decades.

	No. of Cases.	10-20 Yrs.	20-30 Yrs.	30-40 Yrs.	40-50 Yrs.	50-60 Yrs.	60-70 Yrs.	70-80 Yrs.	80 Yrs.
Carcinoma	459	......	6 12%	67 60%	151 70%	130 85%	80 92%	24 100%	1 100%
Periductal sarcoma	4	......	......	......	1 .4%	3 2%	......	......	......
Periductal myxoma	10	......	5 10%	1 1%	3 1.5%	1 .6%	......	......	......
Periductal fibroma	48	4 45%	26 50%	13 11%	4 2%	1 .6%	......	......	......
Fibro-cyst-adenoma	3	......	1 2%	2 2%	......	......	......	......	......
Papillary cyst-adenoma	9	......	......	1 1%	3 1.5%	2 1%	3 3%	......	......
Diffuse hypertrophy	2	1 11%	......	......	1 .4%	......	......	......	......
Abnormal involution	87	......	7 13%	20 18%	45 21%	13 8%	2 2%	......	......
Eczema of nipple	2	......	......	......	......	2 1%	......	......	......
Chronic abscess and ductal mastitis	8	......	2 4%	2 2%	3 1.5%	1 .6%	......	......	......
Single retention cyst	5	......	2 4%	1 1%	2 1%	......	......	......	......
Tuberculosis	13	3 33%	3 6%	3 3%	4 2%	......	......	......	......
Non-indigenous sarcoma	4	......	......	2 2%	1 .4%	......	1 1%	......	......
Other non-indigenous tumors	4	1 11%	1 2%	......	......	1 .6%	1 1%	......	......
Total Cases	658	9	53	112	218	154	87	24	1

By this table it is to be seen that the proportion of cancer to other tumors of the breast is a constantly increasing one to the end of life. While between 20 and 30 years of age cancer occurs in only 6 per cent. of all cases, after 70 years the percentage is 100. All of the twenty-five tumors of the breast occurring in the Massachusetts General Hospital in ten years, in women who were over 70 years of age, were cancer.

The periductal fibromata, on the other hand, are most numerous in the third decade from 20 to 30, and constitute 50 per cent. of all tumors occurring at this period. From this time they gradually diminish in frequency until the sixth decade, after which they disappear.

Of the cyst-adenomata, we find that tumor (fibro-cyst-adenoma) which is most nearly related to the periductal fibromata, appearing in the same decades, the third and fourth, with the majority of the latter; while the papillary cyst-adenoma, beginning in the fourth decade, continues to the seventh, and therefore belongs to a distinctly later period of life.

Abnormal involution reaches high-water mark in the fifth decade, 40 to 50 years, with 21 per cent. of the tumors occurring in this period. This corresponds closely with the average age given for abnormal involution, which is from 42 to 45. The age incidence of other diseases is of less significance. The inflammatory processes, as might be expected, occur especially in the early decades, and tuberculosis, in this series of cases, appears to have affected the breasts of younger women than has generally been believed. The non-indigenous sarcomata of the breast, though few in number, occur rather in the middle period of life.

FIBRO-EPITHELIAL TUMORS.

The fibro-epithelial tumors now present themselves for consideration. These new growths of the breast have been described under so many different names that even an enumeration of all their titles is impossible. Before the middle of the last century all tumors of the breast were regarded as cancer. When Cruveilhier first recognized the existence of benign tumors of the breast a storm of opposition was raised in the French Academy of Medicine. Cruveilhier described a fibroma of the breast, but this name was not accepted, and a multitude of other names were used to describe the tumors of this character. Thus Johannes Müller adopted the term of cysto-sarcoma-phyllodes; Brodie, sero-cystic sarcoma; Sir Astley Cooper, hydatid tumor. Billroth,[6] fibroma and cysto-sarcoma; Paget, chronic mammary and proliferous cysts. Adenocele, adeno-fibroma, fibro-adenoma, cyst-adenoma proliferum and intracanalicular-papillary-fibroma are all terms which have been used at one time or another to apply to fibrous tumors of the fibro-epithelial group. The reason for this diversity of nomenclature is readily found when the attempt is made to reduce the tumor to its component parts. In one case fibrous tissue predominates, but in another the glandular structures play a more important part. Ribbert[4] undoubtedly reaches the most satisfactory solution of this difficulty by grouping the tumors of this nature apart, not as fibroma or as adenoma, but as fibro-epithelial tumors partaking of the character of both tissues. One fact, however, is apparent in the consideration of these cases; and, although

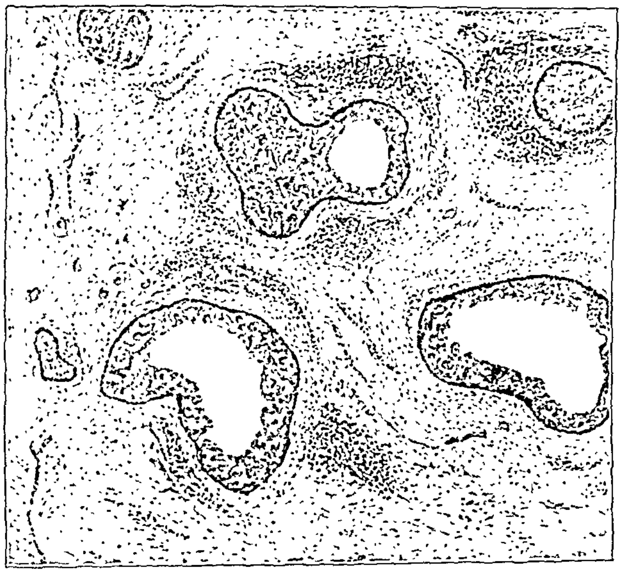

Fig. 11.—Abnormal involution and adeno-carcinoma. Microscopic appearances.

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[6] Billroth: Deutsche Chirurgie, vol. xii, Krankheiten der Brustdrüse.

long ago pointed out by Billroth,[6] this fact has not received the attention of surgeons and pathologists which is its due. I refer to the fact that the chief constituent of the tumors of the fibrous type is the peculiar transparent periductal tissue of the female breast. This periductal tissue makes its appearance and develops during the period after puberty and before lactation, and it is at this period that the vast majority of tumors of the fibrous type occur. No one can deny that this periductal tissue is essentially a part of the glandular structure of the breast, and its close relation to the epithelium of the ducts and the interdependence of the two tissues makes it practically impossible for the one to undergo the changes of tumor formation without the other participating in the process to a greater or less extent. For these reasons I have recently adopted the term *"periductal fibroma"* as the most accurate name to apply to the tumors of this character, and this term I venture to offer in the hope that the name "adeno" may be reserved for the tumors in which the epithelial elements play a more important part. Cystic dilatation of the ducts or of the characteristic clefts of the periductal fibroma may occur in certain instances, and is due in all probability to the obstruction of the pre-existing ducts. These cysts are thus secondary in character and of relatively secondary importance. The clinical characteristics of the more cystic forms of periductal fibroma are as little to be distinguished as their pathological ones, and although the attempt was made in this investigation to separate the cystic from the more solid tumors of this class, it was soon apparent that no data of value could be obtained. These tumors of the fibrous type may, however, be divided according to their richness in cells or the character of their fibrous tissue, into three groups, fibroma, myxoma, and sarcoma.

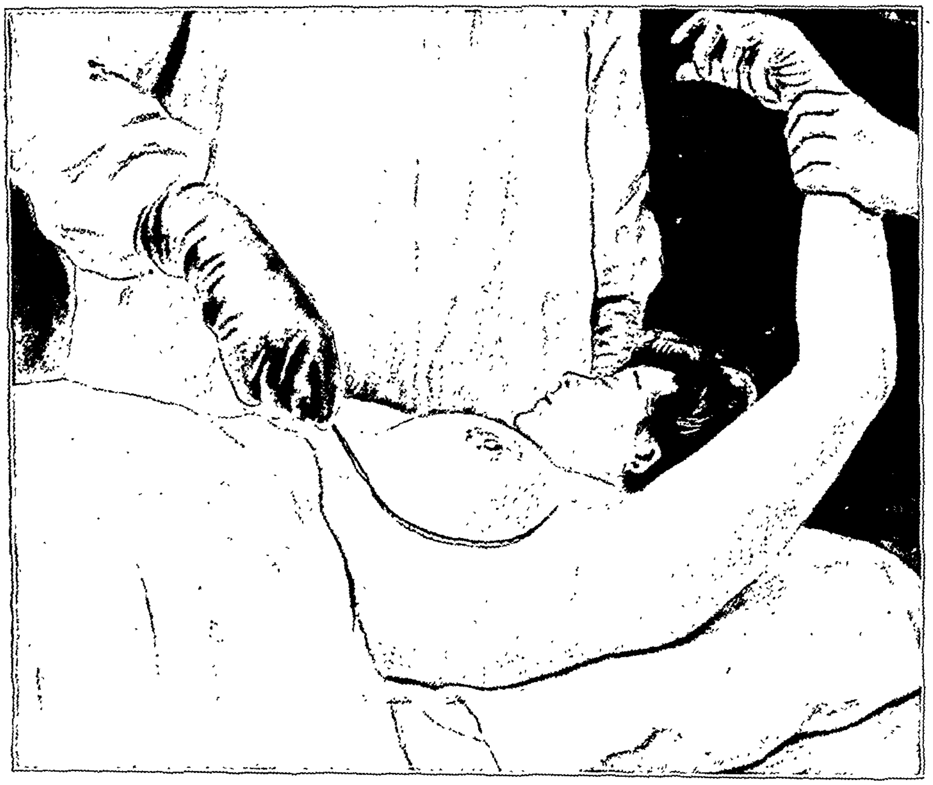

Fig. 12.—Plastic resection. Line of incision.

PERIDUCTAL FIBROMA.

Under this heading are included the true encapsulated fibro-epithelial tumors arising from the periductal fibrous tissue and composed chiefly of this tissue with a certain admixture of epithelial elements. Of this type of tumor there were forty-eight cases in the hospital series and six in private practice, 7 per cent. of the whole number of diseases of the breast. They varied greatly in size, from a bean to a cocoanut, and fifteen cases had multiple tumors in one or both breasts. The average size was about that of an English walnut. These tumors presented themselves clinically as hard nodules, freely movable in the breast tissue and under the skin. In gross appearance they presented firm, encapsulated tumors of a whitish, glistening appearance on section, and traversed by many cleft-like cavities, which were rarely distended to such an extent as to justify the term of cysts. Microscopically they showed a firm, fibrous capsule limiting them from the rest of the breast substance, but while some were composed of dense tissue, others were looser in arrangement, and some had even a myxomatous appearance which was attributable to edema.

The clinical features of tumors of this group could be summarized as follows:

The greater number occurred in women from 20 to 30 years of age. Unmarried women were most commonly affected. The tumors were of slow growth and painless, although in certain instances increased sensitiveness at the time of catamenia was recorded. The situation of the tumors in the breast was variable, but the upper outer quadrant was most commonly involved. Amputation was required three times on account of the size of the tumor; in the other cases excision or resection was the operation which was performed. Eight of the 48 cases showed cyst formation to a greater or less extent, but no clinical features served to distinguish them from the other cases. In one case the changes of abnormal involution were present in addition to the fibroma, and in one instance also carcinoma appeared to have originated in a tumor of this character.

PERIDUCTAL MYXOMA.

Ten cases occurred in the hospital series and two in private practice. The myxomata were obviously derived from the tumors of the periductal-fibrous group and differed from them only by their size, which was somewhat greater, and by the gross and microscopic appearance of myxomatous tissue on section of the tumor. It seems probable, as recorded by a number of other writers,[7, 8, 4] that the myxomatous character was

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[7] Schimmelbusch: Archiv für klin. Chirurgie, 1892, vol. xliv, pp. 117 and 102.

[8] Schimmelbusch: Deutsche Gesellschaft für Chirurgie, 1890, p. 117.

due for the most part to the edema of the fibrous tissue which is characteristic of the periductal fibromata of the breast. These tumors occurred later in life than the fibromata and were of long duration. Rapid growth, however, was not unusual and the tumors were generally of large size. They were all hard in consistency. Necrosis and ulceration of the skin occurred in two cases, and enlarged axillary glands were sometimes found. Adhesion to the skin was present in one case in addition to the two which showed ulceration. The pathologic characteristics were those of a large lobulated, well encapsulated tumor showing cyst cavities or clefts, and a homogeneous transparent stroma. Except for their size it is obvious that these tumors differed in no marked essentials from the tumors of the fibroma class.

PERIDUCTAL SARCOMA.

Four cases of periductal sarcoma occurred in this entire series. These were tumors of the fibrous group with a stroma so cellular as to demand classification as sarcoma. All, however, presented the combination of cellular fibrous-tissue stroma and epithelial gland ducts. They were, as a rule, large, hard tumors, involving the whole breast, the size of a cocoanut or a child's head. They were lobulated and encapsulated, with a marked tendency to ulceration and to cyst formation. The skin above the tumors was, as a rule, reddened and contained dilated veins, but was not invariably adherent. Axillary glands, as a rule, were not involved. The tumors were of long duration and the patients of advanced age, 44, 51, 53 and 57 years. They were all married women. The growth of the tumor was slow at first, but in two cases had been more rapid within the last few months. Pain was insignificant. Amputation was done in every case.

Periductal sarcoma is thus seen to be merely an exaggeration of the periductal fibroma and myxoma, occurring somewhat later in life and presenting a tumor of greater size. Tumors of this nature, although generally described as sarcoma, have long been recognized to be of a very slight degree of malignancy. Schimmelbusch[7,8] has perhaps taken the most advanced position in this regard. The encapsulation and the absence of axillary or pulmonary metastasis would appear to support this contention, and it must be admitted that fibroma, myxoma and sarcoma are all tumors which are very closely related. It is unusual, in fact, to find a specimen of periductal sarcoma which does not show in some portions the characteristic picture of myxoma and of fibroma. The tendency to malignancy of the tumors of this group is only slight, and they cause disturbance principally of a local character. The danger of carcinoma is very remote. They cannot, however, be regarded as innocuous because of the limited tendency which they present to excessive growth and ulceration. For these reasons, operative removal is indicated. This may best be done in the small fibromata by the operation later to be described, under the term of "plastic resection of the mammary gland." The larger sarcomata and myxomata, however, require amputation. Although the determination of the end results of periductal sarcoma has not been worked out, a point not coming within the scope of this paper, my own experience has led me to estimate the tendency to recurrence after operation at a far lower figure than the 50 per cent. of Gross[9].

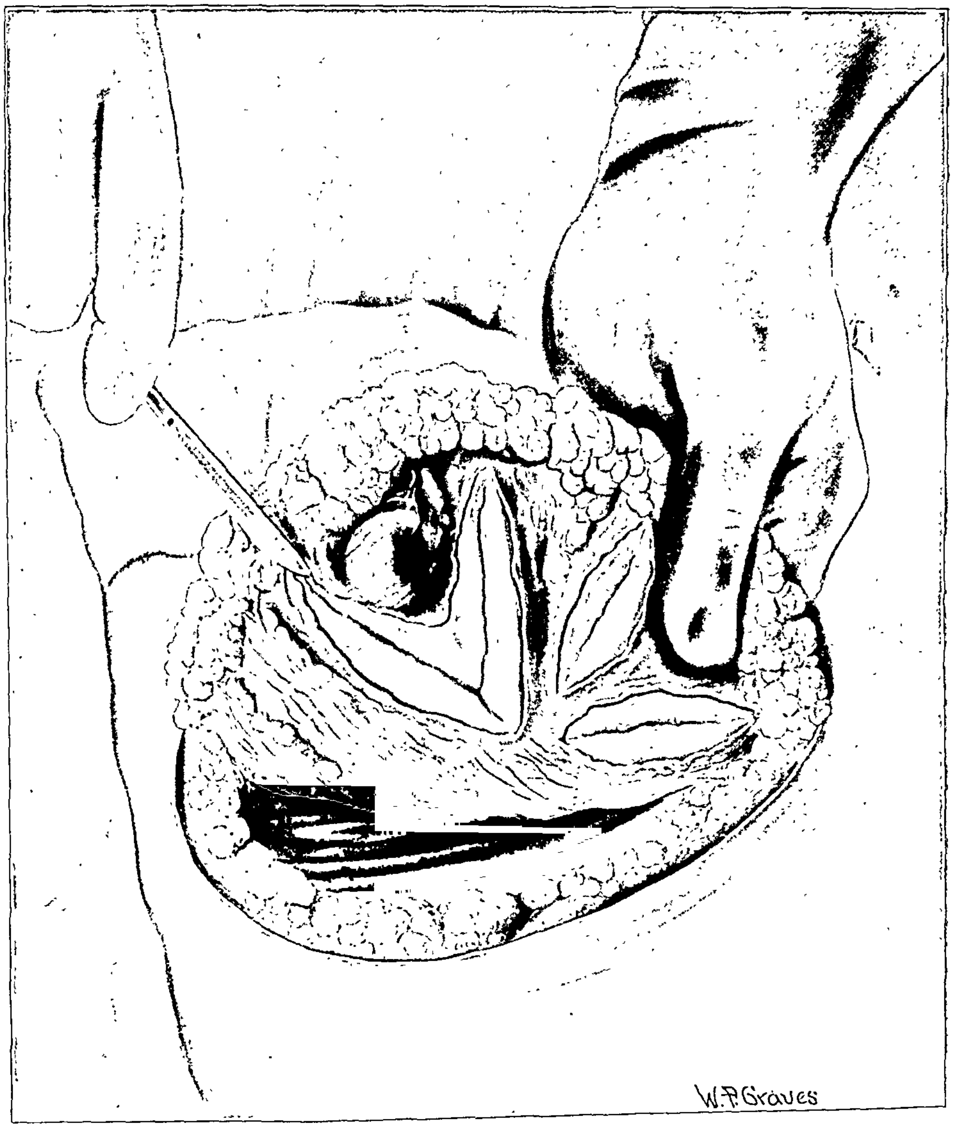

Fig. 13.—Plastic resection. Removal of wedge-shaped piece containing cysts. Radiating incisions in other lobules.

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[9] Gross. S. W.: American Jour. Med. Sci., July, 1887.

FIBRO-EPITHELIAL GROUP—EPITHELIAL TYPE—CYST-ADENOMA.

A certain number of tumors of the fibro-epithelial group present such marked epithelial changes as to merit description under another heading separate from the tumors of the periductal fibrous type. Tumors of this nature occur in two main classes; both of which, however, are much rarer than the tumors of the fibrous type. For these two classes I have adopted the names (1) *fibro-cyst adenoma,* and (2) *papillary cyst-adenoma.* The tendency to the formation of cysts in all inflammatory or neoplastic conditions of the mammary gland has been the cause of great confusion in nomenclature. A sharp line of differentiation, however, should be possible between a tumor of local unicentric growth and a diffuse process involving multiple areas in the gland or even the breast of the other side. For this reason I have seen fit to reject the term of "cyst-adenoma," for all but local new growths of a cystic character, the majority of which are tumors which come under the clinical classification the papillary type. Multiple diffuse cyst formation in the breast I prefer to class as abnormal involution, and under that heading I will go more at length into the nomenclature of other writers. The occurrence of cystic tumors among the periductal fibromata has already been remarked, and allusion was there made to their purely secondary character.

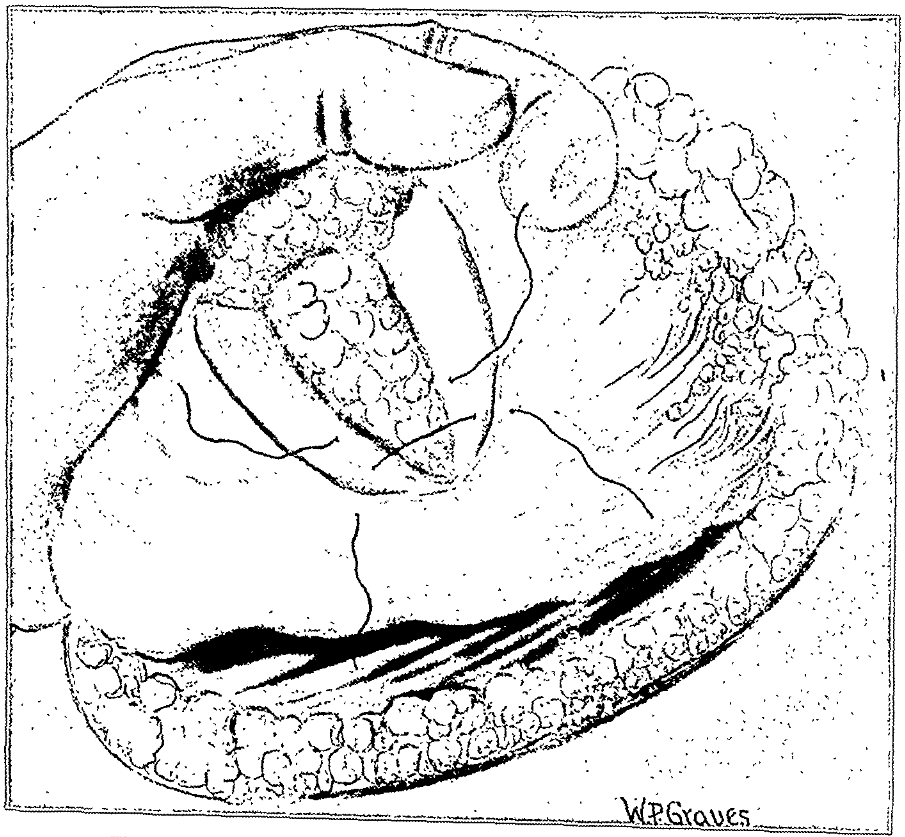

Fig. 14.—Plastic resection. Reconstruction of breast with buried sutures.

FIBRO-CYST-ADENOMA.

In four cases in this entire series secondary epithelial new growth occurred in a periductal fibrous tumor, producing a combination of lobular and cystic epithelial growth in a stroma of periductal tissue. To these tumors I have applied the name of "fibro-cyst-adenoma." They may be regarded as an epithelial exaggeration of the periductal fibroma and their anatomical structure differs from the fibroma only in the secondary proliferation of their epithelium. Tumors of this character have been described by other writers chiefly as adenomata, papillary cyst-adenomata, cysto-adenoma-proliferum, poly-cystoma, cystic fibroma, tubular-adenoma, etc. The characteristics of the fibro-cyst-adenomata were as follows. The size of the tumors varied from the size of a walnut to that of a fist. They were lobular and of hard consistency, and movable under the skin. They had in general the appearance of a periductal fibroma in which the epithelial lined slits greatly preponderate. The axillary glands were not enlarged and the nipples were not affected. On section these tumors presented a definite capsule and a lobular structure containing cysts of varying sizes. The cysts presented papillary outgrowths of connective tissue with a covering of epithelium. Microscopic examination showed marked proliferation in the epithelial cells lining the cyst cavity and covering the papillary outgrowths. The ducts appeared to be more involved in these tumors than the acini of the gland. All occurred in young single women, the average age being 32. They were tumors of slow growth and of long duration. Pain and discharge from the nipple were not recorded. All of these tumors were removed by excision without amputation of the breast.

The prognosis of tumors of the fibro-cyst-adenoma type must be regarded as entirely favorable, and removal of the tumor without amputation of the breast gives freedom from recurrence. It must be said, however, that the indication for operation in these tumors is even greater than in the fibromata, because of the epithelial proliferation which they present and the possibilities of its later development into carcinoma.

PAPILLARY CYST-ADENOMA.

The last group of tumors of the fibro-epithelial type comes under the heading of "papillary cyst-adenoma." These tumors are perhaps the most distinctive in clinical characteristics of any of the benign neoplasms of the breast. Nine cases occurred in the hospital series and three in private practice. They thus form the majority of the tumors which go to make up the epithelial division of the fibro-epithelial group. Tumors of this nature have been described by different writers under many headings. Gross,[10] in his classification in 1880, attempted to restrict to them the term "adenoma" or "true adenoma," with the intention of indicating the growth of glandular epithelium in the form of tubes and ducts which they present. The English writers[11, 12, 13] describe these tumors under the terms villous papilloma, duct papilloma, or by what, in the light of modern investigation, we must consider the misnomer, "duct cancer." By German writers[14, 4, 15, 7, 10] they are commonly known as cyst-adenoma-papillare, poly-cystoma proliferum, intracanalicular cyst-adenoma, proliferating cyst-adenoma, or papillary cystoma.

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[10] Gross, S. W.: Tumors of the Mammary Gland, New York, 1880.

To my mind the term papillary cyst-adenoma is the most satisfactory name for tumors of this variety. The histologic picture of a papillary or warty outgrowth is that of a connective tissue pedicle surmounted by an epithelial covering. Papillary structures of this character are the distinguishing feature of the tumors of this group and serve to differentiate them absolutely from other benign tumors of the breast. Tumors of this character rarely attain great size. Their consistency is hard, although fluctuation may occasionally be detected. Adherence to the skin and enlargement of the axillary glands are not to be expected. The situation of the tumor in the breast is generally beneath or in close relation to the nipple. On gross examination these tumors present the picture of a cyst cavity containing papillary or villous outgrowths from its wall. The fluid contents of the cyst is generally hemorrhagic. Microscopic section shows the characteristic papillary outgrowths of connective tissue surmounted by a luxuriant growth of epithelium. The epithelium in these cases presents the characteristics of ductal rather than acinal epithelial cells. The average age of the cases of tumors of this type was 52 years; and married women, especially those who have borne children and reared large families, appear to be especially predisposed. As a rule the tumors are of slow growth and of long duration. The most characteristic symptom, however, is the discharge of bloody fluid from the nipple, which occurs in the majority of cases.

Amputation was done in three cases of papillary cyst-adenoma and resection and excision in six. The absence of recurrence after operation is strong evidence in favor of the right of the tumor to a place in the category of benign neoplasms.

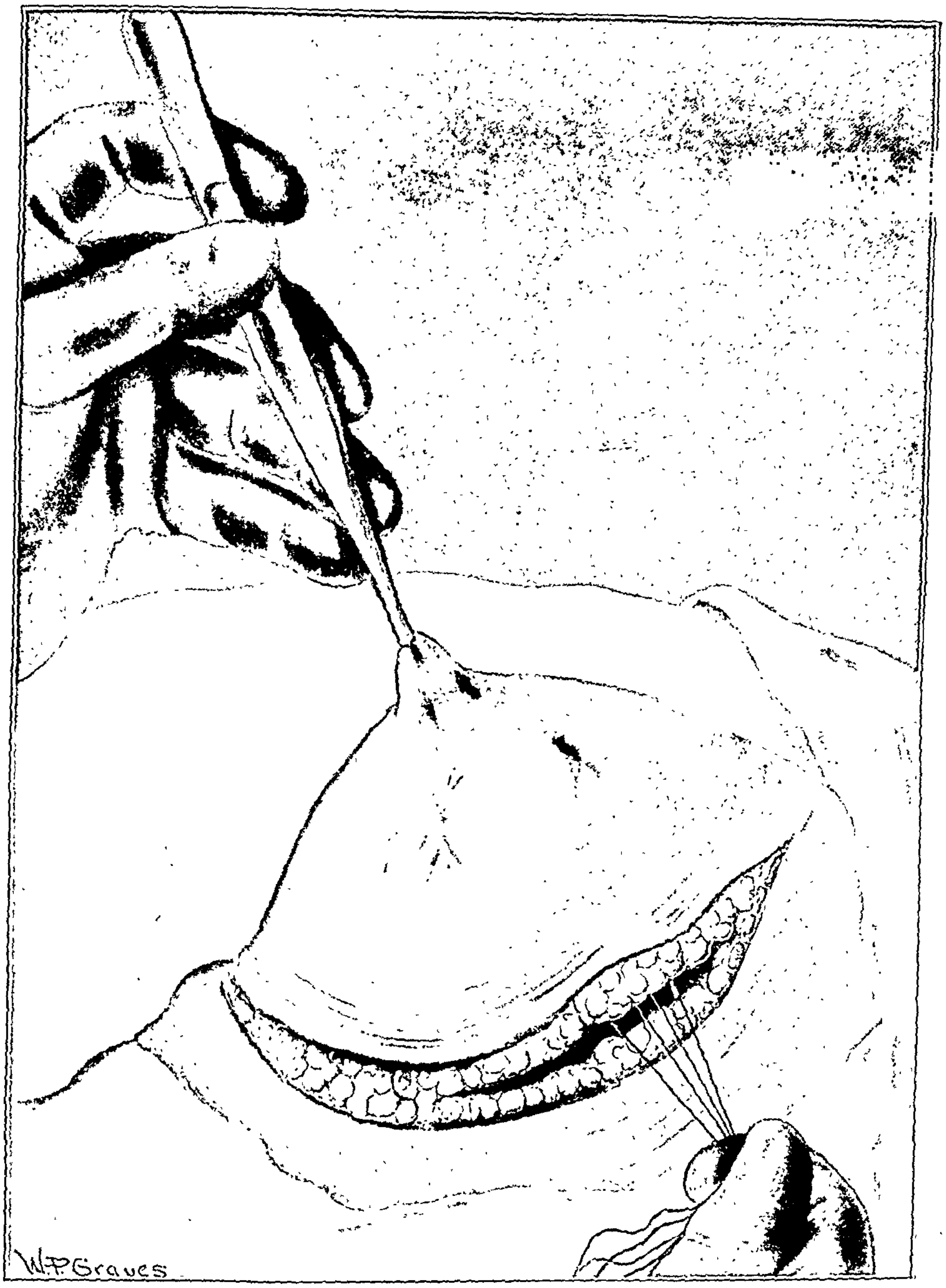

Fig. 15.—Plastic resection. Reconstruction of breast with buried suture. Eversion of nipple.

Papillary cyst-adenoma is thus seen to be a tumor occurring late in the life history of the breast, and one to which the functional activity of the gland in a certain measure predisposes. They are comparatively rare, but their significance must not be overlooked on that account, and it should be noted that although only nine cases occurred during this decade in the hospital

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[11] Bryant: "Diseases of the Breast." Cassel & Co., London, 1887.

[12] Sheild: "Diseases of the Breast," London. McMillan & Co., 1898.

[13] Williams: "Diseases of the Breast," London, 1894. John Bale & Sons.

[14] v. Angerer: von Bergmann's, Bruns' and Mikulicz' Handbuch der Prakt. Chirurgie, vol. ii, p. 560.

[15] Sasse: *Archiv. für klin. Chirurgie*, 1897, vol. liv, p. 1.

series, during that time two cases of cancer were found in which this disease was also present. In fact papillary cyst-adenoma has been thought to predispose to a special form of cancer, "adeno-carcinoma-destruens" (Tietze[16]), and this condition was present in both of the cases to which I have referred. The prognosis then of these tumors with early and complete removal is good. If not removed by operation, however, the danger of malignant sequelæ is very great.

HYPERPLASIA.

The term "hyperplasia" I have reserved in this classification for those processes in the breast which are of a diffuse character and for this reason to be sharply differentiated from the local unicentric process of actual tumor formation.

By hyperplasia is meant an increase in the fibrous and epithelial elements of the breast, affecting one or more lobules of the gland, and presenting the microscopic picture of an increase in the number of cell elements of both of the significant tissues, the fibrous stroma and the epithelium. Under this category two main divisions can be made: (1) "diffuse hypertrophy" of the breast, and (2) abnormal involution.

DIFFUSE HYPERTROPHY.

The so-called "diffuse hypertrophy" of the breast is a rare disease, but one which has received attention from many writers.[17] Two instances of this disease are included in the hospital series of cases, and fortunately the two cases serve to illustrate well the two main subvarieties of this condition.

One form of diffuse hypertrophy and perhaps the most common variety, is that which occurs in connection with pregnancy.

Of this form we have an example in the case of a woman of 43, who had undergone two miscarriages and who presented the abnormalities and diseases of the pelvic organs which have so frequently been noted in connection with this disease. Both breasts were affected and were uniformly enlarged. The consistency of the breasts was soft, but hard, stringy nodules could be detected on palpation. Microscopic examination showed the presence of fat, loose fibrous tissue and atrophied gland structures. There were no cysts nor discrete fibromata. The breasts gave trouble only from their size, and the pain was of an insignificant character; a double amputation was performed.

The other case serves to illustrate the condition as it appears in younger women. This occurred in an unmarried girl of 17, and involved the left breast only, which was enlarged to two or three times the size of the breast on the other side. The consistency of the breast was nodular and corded, and tenderness or "mastodynia" in this case was a marked feature. Irregularity of catamenia was noted, but no other abnormality of the pelvic organs could be determined. In this case no operation was done and a year and a half later, under palliative treatment by supporting bandages, the enlargement of the breast had partially subsided, and tenderness and mastodynia had diminished to a moderate extent.

ABNORMAL INVOLUTION.

The hyperplastic changes in the tissue of the mammary gland which accompany the process of involution have long been the subject of contention and controversy among pathologists and clinicians. The chief source of difficulty in the classification of the involution changes of the breast is undoubtedly to be attributed to the tendency which the gland exhibits to the formation of multiple cyst cavities. In all probability a moderate degree of dilatation of the ducts may be considered the normal condition of the breast at a certain stage of its decline, and only when these cysts and their surrounding stroma become so extensive as to attract attention by the induration which they produce, does the process attain a degree of abnormality sufficient to classify it as pathologic. Multiple cystic disease of the breast has long been recognized, and has been many times described under a multitude of different terms. Abernethy and Bell considered this a form of hydatid disease as did also Sir Astley Cooper. Brodie took the view that the cysts were caused by dilatation of the preexisting ducts, and the French surgeons of that time agreed in this interpretation. Paget believed that cysts were formed in the breast both by obstruction and by active new growth, and the German school of pathologists of that time were inclined to attribute the multiple cysts of the declining breast to an active new growth of the acinal epithelium, although Virchow was a believer in the obstructive origin of mammary cyst formation. A new impetus was given to the study of this disease by Réclus,[18] who in 1860 attempted to show that the cysts were produced by an active new growth of the epithelium of the gland closely allied to carcinoma, and gave to it the name of intra-acinous cystic epithelioma. Later publications in 1887 called attention more specifically to the epithelial origin of these growths, and the disease became known in France as the "maladie de Réclus."

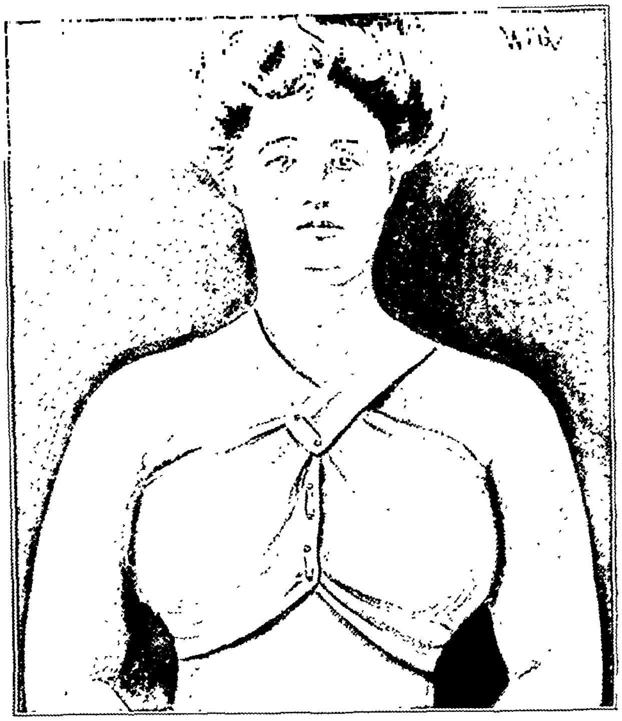

Fig. 16.—Empire bandage.

From the time of Réclus' later publications, many different theories have been advanced to explain the occurrence of multiple cysts in the involuting breast. These theories may be grouped into three main classes which may be briefly described as follows:

1. *Inflammatory Theory.*—The prevailing theory

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[16] Tietze: Deutsche Zeitschrift für Chirurgie, 1900, vol. lvi, p. 512.

[17] Kirscheim: Archiv. für klin Chirurgie, 1902, vol. lxvii, 2, p. 582.

[18] Reclus: Gazette des Hopitaux, July 7, 1887, p. 673.

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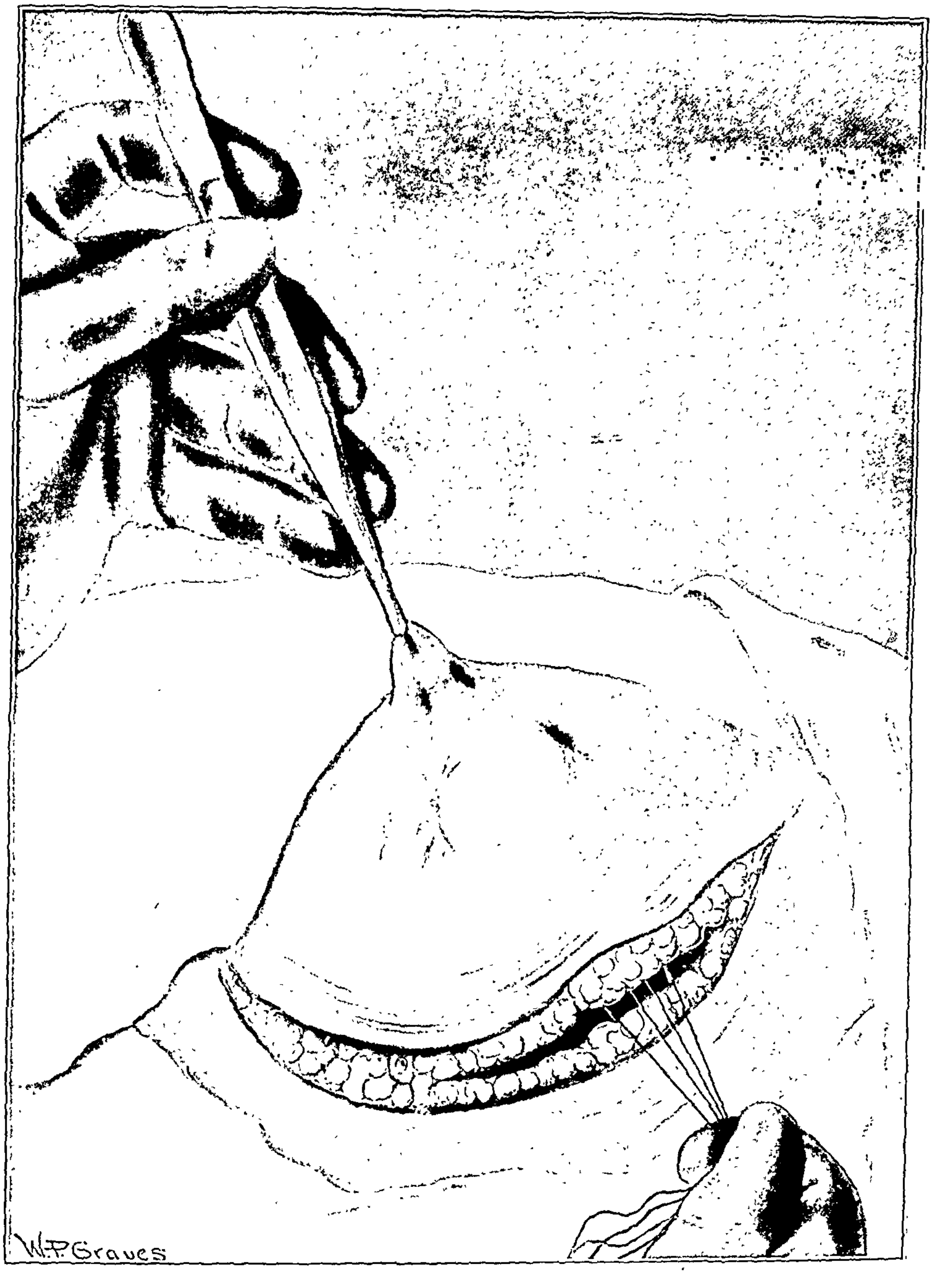

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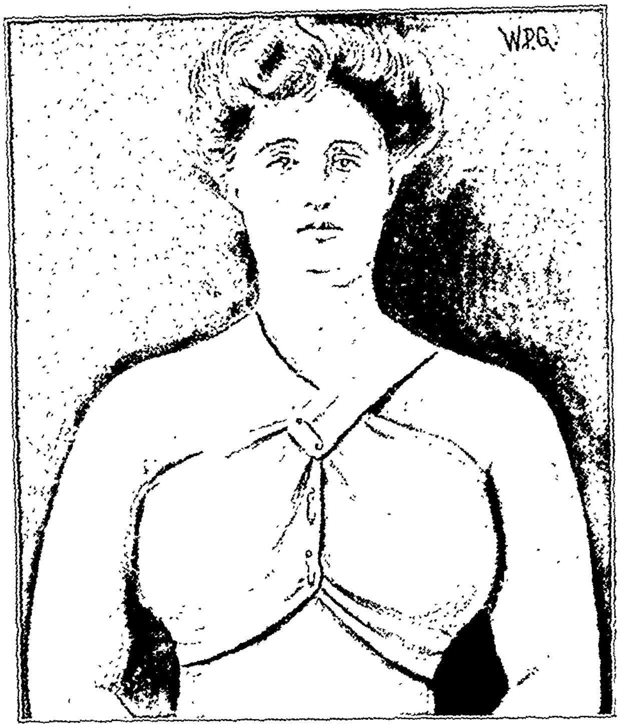

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among French[19, 20, 21] and English surgeons, [22, 23, 12, 13] and the view which has been vigorously supported by Koenig[24] and other German surgeons,[25] attributes the cyst formation to inflammatory origin, "chronic cyst mastitis." Whether this inflammatory process arises from infection of the ducts, as believed by the French writers, or whether it is of a more remote character is not determined. The chief points on which the theory is based are the evidences of chronic inflammation in the round-cell infiltration and thickened stroma of the gland, and in the clinical course of the disease, which is thought to be subject to repeated exacerbations. Koenig lays great stress upon the increased swelling and sensitiveness at the time of the catamenia.

2. *New-Growth Theory.*—The second theory, advanced originally by Schimmelbusch,[7] and supported by Sasse,[15] Maly,[26] and to a certain extent by Tietze,[16] attributes the process to an actual new-growth. This theory is widely accepted in Germany, and has obtained some support in other countries. Because of the supposed relation to tumor formation, the names of cyst-adenoma (Schimmelbusch[7]) poly-cystoma (Sasse[15]), or cystoma (Tietze[16]) have been proposed. It should be stated that Sasse and others attempt to distinguish the lesser degrees of this disease, under the name of "involution cyst," from the more advanced process of "poly-cystoma." The line, however, between the two conditions appears to be determined with the greatest difficulty.

3. *Involution Theory.*—A later theory, and the one which has been supported by the investigations which have been carried on in this country, rejects both the inflammatory and the neoplastic origin, and refers the proliferation of the breast epithelium to the abnormal conditions produced by involution. This is, in a measure, a return to the views of Réclus, who recognized the significance of the epithelial proliferation, but erred, in considering this the origin of the process.

Tietze[16] agrees that the disease is chiefly epithelial in character, and of a more diffuse distribution than would warrant the title of a tumor. Bloodgood[27] has recognized this fact in the name which he suggests of "senile atypical parenchymatous hypertrophy." Greenough and Hartwell[28] made a study of thirty cases of this disease in 1902. By these writers the chronic appearances of the stroma of chronic cystic disease of the breast are considered to be of secondary importance, whereas the diffuse character of the epithelial proliferation is thought to be evidence sufficient to prevent the interpretation of the process as an actual new-growth. According to their views, the connective tissue increase is attributed to the normal process of involution and atrophy which the breast gland shares during its declining stage, with other organs of the genital apparatus. Cystic changes of the ducts and acini are produced by obstruction from this thickened fibrous tissue. Up to this point the process may be considered physiologic. It has long been understood, however, that the epithelium of the breast gland is of notoriously unstable equilibrium, and the abnormal condition of cyst formation provides a stimulus which in about half the cases of this disease, as nearly as can be estimated, leads to secondary proliferation of the epithelium. Were we able to state at what point this epithelial proliferation would cease, no danger from this disease need be apprehended, but it has been determined by a number of different observers that in the proportion of about one case in ten this epithelial proliferation oversteps the bounds of hyperplasia into the territory of malignant new-growth. It is probably to these proliferative cases of abnormal involution that Sasse and Schimmelbusch would restrict the term poly-cystoma or cyst-adenoma, and it must be confessed that a certain number of advanced cases of abnormal involution can be distinguished with great difficulty from actual new-growth. It has seemed to me, however, to be safer to restrict the term "cyst-adenoma" to tumors of local origin and well determined outline, and to apply the general term of hyperplasia or abnormal involution to all of those diffuse processes which by their microscopical appearances are still within the pale of benign diseases of the breast.

The chronic interstitial mastitis of the English writers,[22, 23, 11, 12] chronic cirrhosing mastitis (Billroth[6]), maladie cystique de la mammelle or intra-acinous cystic epithelioma (Réclus[18]) maladie de Réclus,[10] maladie noneuse de la mammelle (Phocas[21]) chronic cystic mastitis, (Koenig[24]), periductal mastitis (Delbet[20]), polycystoma epitheliale (Sasse[15]), cyst-adenoma (Schimmelbusch[7]), plexiform fibroma (French[19] writers) chronic mastitis or diffuse fibro-adenoma (Wood[29]), cystic disease of the breast (Bryant[11]), and fibrous and glandular hyperplasia with retention cysts,—are but a few of the designations which have been applied to this disease. The last term, which was evolved by Dr. W. F. Whitney pathologist to the Massachusetts General Hospital, is probably the most correct and satisfactory appellation for this condition which could be devised, but suffers in being too unwieldy for practical use. For this reason I prefer the name of "abnormal involution."

Eighty-seven cases of abnormal involution appear in the hospital series and 28 in the cases from private practice. Of this total number 59 show lesions which are classified as cystic only, the remaining 56 presenting evidence of epithelial proliferation. A certain amount of fibrous tissue increase with more or less round-cell infiltration is characteristic of involution of the breast under any circumstances.

The changes which have been classed as cystic are those presented by breasts in which this fibrous thickening has produced dilatation of the ducts alone without obvious changes in the character of the epithelium. The proliferative group are those which are characterized in addition by proliferative changes in the epithelium of the cysts or acini.

Of the proliferative group, three subdivisions have been distinguished according to the character or degree of the epithelial growth. (1) Proliferation of the acini, (2) papillary outgrowths of epithelium into cysts, and (3) adenomatous proliferation of epithelium. The significance of these three groups will appear in the discussion of their special characteristics. The gross appearances of cases of abnormal involution may be summarized as follows: A considerable proportion of the cases are diffuse in character; while others present local indurations of the breast tissue of varying size and situation. The consistency of this induration is hard or nodular, although softer and even fluctuating areas are occasionally noted. It would seem, however, that a cyst to be appreciated with certainty by its elastic feeling or fluctuation must attain considerable size. Pain and tenderness are present in about half of the cases, and although not diagnostic this symptom must be considered of significance in view of the generally painless character of carcinoma. Axillary glands are detected in only a small proportion of the cases. It has been my impression, based on clinical experience, that inversion of the nipple is a frequent accompaniment of abnormal involution, and it may certainly be stated that previous diseases or abnormalities of the breast, such lesions especially as interfere with the normal function of the gland, are predisposing factors in the origin of this disease.

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[19] Binaud and Braquehaye: Dentu and Delbet's Traité de Chirurgie, Paris, 1899, vol. vii.

[20] Delbet: Bull de Soc. d'Anat. de Paris, January, 1893. Paris.

[21] Phocas: Report of Fourteenth French Congress of Surgeons, Paris, 1901, p. 470.

[22] Banks: Lancet, 1900-01, p. 843, and 1902-01, p. 309.

[23] Paul: Transact. London Pathological Soc., 1901, vol. iii, p. 30.

[24] Koenig, F.: Lehrbuch der Speciellen Chirurgie. (Sixth edition.) Vol. ii, Hirschwald, 1893. Berlin; Centralblatt für Chirurgie, 1893, vol. xx, p. 49.

[25] Roloff: Deutsche Zeitschrift für Chirurgie, 1899, vol. liv, p. 106.

[26] Maly: Zeitschrift für Heilkunde, 1898, xix, p. 355.

[27] Bloodgood: Jour. Amer. Med. Assoc., Aug. 6, 1904, p. 367.

[28] Greenough & Hartwell: Journal Medical Research, 1903, vol. ix, No. 4, p. 146.

[29] Curtis & Wood: Medical News, New York, Aug. 13, 1904, p. 294.

On gross examination these specimens show fibrous induration of the breast gland with the presence of multiple cystic cavities containing fluid varying from a clear serum, through all the shades of brown and green and black. The process is diffuse in the vast majority of cases, although one lobule of the gland is often noted as the situation in which the disease is most advanced. Under microscopic examination fibrous hyperplasia and secondary involvement of the gland structures with cyst formation is observed.

The majority of cases occurred between 40 and 50 years of age. Married women were apparently the more susceptible to the disease. The duration was a matter of considerable variation, and the rate of growth was generally slow. Trauma was apparently of comparatively little etiologic importance. In this series of cases the relation between exacerbations of the disease and the catamenial period was conspicuous by its absence, only four cases having stated that the induration was influenced in its sensitiveness or in size by the monthly period. Discharge from the nipple was noted in fourteen cases, and was relatively more frequent among the proliferative than among the purely cystic types of involution. The character of the discharge varied from yellow serum and watery or milky fluids to brownish and bloody fluid and even pus. Of the fourteen cases, however, which showed a discharge from the nipple, seven presented tumors immediately beneath the nipple, and it is probable that discharge from the nipple will be found to depend more on the situation of the cyst than on the character of the epithelial changes within its wall. The right breast was involved in 27 cases, the left in 42, and both breasts in 17. The tendency to the involvement of both breasts in this disease is worthy of remark. So far as the situation of the induration in the breast tissue is concerned, the outer and upper hemispheres appear to be the seats of predilection; and the upper and outer quadrant, as in almost all diseases of the breast, is the region most commonly affected. Diffuse induration involving the whole breast occurred in 14 cases. Operation was performed in 86 of these 87 cases. In 41 the entire breast was amputated. In 45 an excision or resection of the breast was done after the method later to be detailed.

The subclassification of the cases of the proliferative type is of interest only from a histologic point of view, and can be determined only by microscopic examination.

The 36 hospital cases which presented proliferation were subdivided as follows: Ten showed an apparent increase in the number of the gland acini, when compared with normal breasts of the same age, and conditions of marriage, childbirth and lactation. This increase in the number of acini was accompanied in the majority of instances by a proliferation of the epithelium to such an extent that thickened or even solid columns of cells were produced, retaining, however, the characteristic formation of the gland ducts, and presenting no infiltration beyond the basement membrane. The significance of this form of proliferation could not be determined from the cases which were available for examination. But it is not improbable that it may ultimately lead to carcinoma. In support of this assertion one case of scirrhus cancer occurred in the hospital series and two in private practice, in which abnormal involution of the acinal type was also present. The clinical characteristics of cases of acinal proliferation were not to be distinguished from those of other types of abnormal involution.

Another class of epithelial proliferation in abnormal involution is to be described under the term of papillary proliferation. This group again is one of only histologic significance. By this term is meant a growth of epithelium in cyst cavities of such a nature that the epithelial cells are heaped up and project into the cavity, without a connective tissue pedicle or support. The microscopic picture of this papillary projection suggests strongly that more epithelium is produced in the lining of the cyst wall than can be accommodated on the basement membrane, with the result that certain portions are forced out toward the center of the cavity. There were 18 cases of abnormal involution which presented this form of proliferation. Of this class, again, the clinical characteristics are not to be distinguished from those of other forms of abnormal involution.

The third and last type of epithelial proliferation which is to be distinguished is that to which Tietze[16] and Greenough and Hartwell[23] have applied to the name of "adenomatous" proliferation. Adenomatous proliferation occurs only in cases in which papillary outgrowths are already present, and must be regarded as a somewhat more advanced type of epithelial growth. In these cases the papillary outgrowths from different portions of the cyst wall appear to meet and fuse together, and the resulting microscopic picture is that of a space filled with epithelial cells in which here and there an open gland lumen is observed. This form of proliferation occurred in eight of the hospital cases and in four of the cases from private practice.

Adenomatous proliferation derives its greatest interest, however, from the fact that it is chiefly in its presence that we find the combination of involution and carcinoma. During the ten years in which the 12 cases of adenomatous proliferation have been collected, 517 cases of cancer have come under observation. Of this number there were 15 which presented the lesions of abnormal involution and carcinoma. Three of these cases showed scirrhus carcinoma in connection with abnormal involution of the acinal type of proliferation. These have already been considered. Of the remaining 12 cases, 9 showed adenocarcinoma with involution changes of the papillary and adenomatous character. In the three other cases medullary carcinoma of a more advanced type was recorded in the pathologic report. Thus during the collection of 115 cases of abnormal involution 15 cases of this disease in combination with carcinoma were obtained, or 13 per cent. This figure is somewhat greater than the 10 per cent, which has been found by Tietze,[16] Greenough and Hartwell,[13] and others; but may be considered as very closely approximating the actual condition.

Attention must again be called to the fact that the clinical symptoms of these proliferative types of abnormal involution are to be distinguished in no way from those of simple abnormal involution, and by no sign on physical examination can the degree of epithelial growth be determined. Microscopic examination is therefore absolutely necessary for the correct classification of the individual case, and in fact the variation between the different portions of the same gland is so great that microscopic examination of all of the tissues is necessary to a correct diagnosis.[30] For these reasons and because of the liability to carcinoma which these cases present, I have no hesitation in recommending operative treatment for abnormal involution in every case. An induration in the breast gland at or about the time of the menopause which is palpable with the flat of the hand against the chest wall I consider sufficient indication for operation.

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[30] The prognosis of a given case of abnormal involution untreated is a matter of some uncertainty. Spontaneous rupture or discharge of the cyst through the nipple may rarely occur, and the entire process subside for a time, or indeed, forever. Suppuration of the cyst is occasionally observed. More often the disease becomes stationary at a certain stage of its development or advances slowly involving more and more of the gland and the breast of the opposite side. Carcinoma develops in something more than 10 per cent of all cases.

For cases of this character I perform "plastic resection of the mammary gland," by means of which a thorough exploration of the gland may be obtained and portions of a suspicious nature may be removed for microscopic investigation without the mutilation of an amputation. This operation I would recommend for every case of abnormal involution in which the diagnosis can be established.

CHRONIC INFLAMMATORY DISEASES.

The chronic inflammatory diseases of the breast are divisible into two main classes, those occurring in connection with lactation, and those produced by specific inflammatory diseases such as tuberculosis. It is to these diseases of the breast that the much abused term "chronic mastitis" should really be applied, but this term has been so loosely employed that its use in any way is at present inadvisable. In addition to the two main classes detailed above, I have ventured to place in the category of chronic inflammation two cases of non-malignant eczema of the nipple, and five cases of single retention cyst of mechanic origin. It is to be regretted that no case of syphilis or actinomycosis entered the hospital during this decade, as it is under this heading that these diseases should be classified.

There were eight cases of chronic lactation mastitis and thirteen of tuberculosis in the hospital series. Chronic lactation mastitis has been again subdivided into five cases of chronic abscess and three of inflammation of the ducts (ductal mastitis). The cases of ductal mastitis show multiple small abscesses and necrotic foci distributed through the breast gland in close relation with the larger ducts. Clinically they present tender indurated masses in the breast. The mass may be adherent to the skin, and enlarged axillary glands may be present. Microscopically these breasts show an increased amount of fibrous tissue with small yellowish foci of necrosis and abscess cavities, while the tissue about the ducts is infiltrated with great numbers of small round cells and leucocytes. The disease especially affects young women, and may be attributed to infection of the ducts during the process of lactation. The chief clinical characteristics are diffuse induration of the breast occurring shortly after lactation, with a tendency to involvement of the skin and more pain and tenderness than would be expected with a tumor. In two of our cases the breast was amputated, and in one the affected lobule was excised.

CHRONIC ABSCESS.

Five cases of chronic or subacute abscess of the breast occurred during the decade. All presented a tumor or nodular induration of the breast of varying size, and in only one case was fluctuation to be detected. Tenderness, adherence to the skin and enlargement of the axillary glands were occasionally noted. The pathologic examination showed one or more abscess cavities of varying size, and microscopic examination showed excessive infiltration of the gland tissue with leucocytes and round cells. The patients were all young adults. All were married, and four had had children, but one had never been able to nurse her child. Two gave a history of previous acute breast abscess. The abscesses were, as a rule, of slow development, and pain was not a pronounced symptom. In two cases old discharging sinuses from previous acute abscesses were still present. In three cases incisions with drainage were made; in one case the breast was amputated, and in one the affected lobule was excised.

GALACTOCELE.

One of the cases of chronic abscess presented, in addition to the abscess, the picture of a retention cyst in a breast which was in active lactation. This condition has been repeatedly described under the name of galactocele, but its occurrence is comparatively infrequent, as may be seen from the fact that but one instance occurred in our total of 758 cases. The symptoms of galatocele do not differ appreciably from those of single retention cysts, except that the condition occurs in a breast which is yet, or has been recently, in active lactation. Under these circumstances the contents of the cyst is of a milky rather than of a serous character, because of the milk-secreting function of the cells which line the cyst at this period of the breast's development.

TUBERCULOSIS.

In this division are included the thirteen cases of chronic disease of the breast produced by the tubercle bacilli. Indurated masses of varying size were produced in the breast, of irregular outline and varying consistency. Tenderness and fluctuation were present in most of the cases. The tendency to involvement of the skin was marked, and in seven cases there were discharging sinuses present at the time of operation. Enlargement of the axillary glands was generally noted. Tuberculosis of other organs was present in only three cases. Microscopic examination of the specimens showed the characteristic tubercular tissue with cheesy foci of necrosis and the typical histologic peculiarities of tuberculosis.

The average age was 30 years, and in three cases the patients were under 20 years of age, although the disease was well distributed through the decades of adult life. Married women who had borne children appeared to be the most susceptible, and in two cases acute abscess had occurred during a previous lactation. The average duration was nine months and the development of the disease was of a chronic character. Pain was absent in about half the cases. Both breasts were involved in only one case; and the upper and outer quadrant was again the seat of predilection. In seven cases the breast was amuptated, in four a portion was excised, and in two the abscess was simply opened and drained. The immediate result in all of these cases was satisfactory.

SINGLE RETENTION CYST.

Five cases occurred in the hospital series which presented the characteristics of a single cyst, of varying size, with no abnormality of the surrounding tissues. These cases have been separated from those of abnormal involution because of their purely local character and the absence of pathologic changes in the breast tissue in their immediate vicinity. It is not to be denied that a certain number may belong properly among those of abnormal involution, and that a more extensive examination might have given data which would justify their inclusion among the latter class. In the absence of these data, however it has seemed wiser to place the single retention cysts in a separate class. Cysts of this character have been described under the name of "evolution" cysts by Gross.[10] They differ in no way from the simple cysts produced in other glandular structures by accidental occlusion of a duct. We are especially familiar with cysts of this type in the epididymis and the salivary glands. Occlusion of a duct may be due to any one of a number of different causes; congenital defects, trauma, and the scars of transient inflammatory processes of the nipple or in the substance of the gland, being perhaps most frequently observed. Operations on the breast for small fibromata are not infrequently followed by cicatricial obstruction of the ducts.

The five cases here presented varied from 21 to 49 years of age—three were single and two married women. The duration was comparatively short (an average of about two months) and development was rapid; there was no pain or tenderness as a rule, and the clinical appearances were those of a single, painless, elastic, fluctuating tumor, varying in size from a walnut to a hen's egg, and of uniform and rapid growth. The axillary glands were not enlarged. Excision was done in every case, and a single thin-walled cyst removed without other abnormality of the gland. The fluid contained in these cysts varied from clear serum to a fluid of yellowish brown color—with more or less turbidity. The significance of a single retention cyst in the breast must be considered very slight, and their chief interest and importance lies in the difficulty in distinguishing them from the multiple cysts of abnormal involution. Because of this difficulty, exploration and excision are to be advised.

NON-INDIGENOUS TUMORS OF THE BREAST.

A certain number of tumors of the breast occur which are situated in that organ only accidentally, as it were, and have no special relation to the mammary gland as regards their origin. Among these tumors I have classed the sarcomata which were derived, not from the periductal tissue, but from other sources, and which presented no evidence of inclusion of the glandular elements of the breast. Two of these tumors were classified as fibro-sarcoma, one was of mixed cells and one of spindle cells. All were much smaller in size than the periductal sarcomata, and all appeared to involve the breast gland before removal. The tendency to the involvement of the skin in these tumors was marked, two being actually ulcerated and one other showing marked adherence and brownish discoloration. The ages varied widely, from 33 to 70 years. All were in married women. The duration varied from 6 months to 10 years. Two were of slow growth and two more rapid within the last few months. Discharge from the nipple was not noted and the axillary glands were found enlarged in only one case. Pain was generally present. Amputation was done in three cases and extensive excision in the fourth. The origin of these tumors appeared to be from the connective tissues forming the stroma of the mammary gland. The essential anatomic elements of the mammary gland were merely displaced by their growth, and they differ in no respect from sarcoma of a similar character arising in other organs. Their size was smaller than the periductal sarcoma, but with this exception the two forms were with difficulty to be distinguished.

The other non-indigenous tumors of the breast were lipoma and lymphangioma. Three cases of lipoma occurred in the hospital series and one in private practice. They were freely movable and not tender. No enlargement of the glands or abnormality of the nipple could be detected. They were multiple in one case. The ages of the patients varied from 20 to 66 years. the duration of the tumors from three to 20 years. They were of slow growth and occasioned no objective symptoms. All of the cases were operated on, excision being done in two and amputation in a third.

A single case of lymphangioma occurred during this decade. This was a cavernous lymphangioma in a girl of 16, which started in the axilla and involved the breast only by secondary extension. It was of six years' duration. Examination showed a dense fluctuating tumor the size of a man's head occupying the position of the breast, but being situated behind the gland and extending from there to the axilla and into the neck. The whole mass was removed without amputation of the breast and the patient made a good recovery.

SUPERNUMERARY BREAST.

One instance of this condition is included in the series of cases from private practice, and another was accidentally discovered in one of the hospital cases of periductal fibroma. Both occupied a situation at the anterior margin of the axilla; and this appears to be the most common site, although supernumerary breasts in other situations along the so-called "milk-line" from the axilla to the groin,- are occasionally reported (Young[31]).

Both cases presented a small collection of glandular tissue without a nipple. No symptoms were produced in either case, and in one the tumor was discovered only in routine physical examination. In the other anxiety was aroused by the presence of the axillary tumor, but was promptly relieved when the correct diagnosis was ascertained.

In neither of these cases was there any evidence in support of the theory that supernumerary breasts are more prone to tumor formation than breasts in a normal condition; and indeed this theory is probably one of those which have been handed down from writer to writer without satisfactory evidence for its support (Martin[32]). The rarity of cases of supernumerary breast (only two occurring in 758 cases) is the probable explanation of this uncertainty in the matter of prognosis.

PLASTIC RESECTION OF THE MAMMARY GLAND.

As Stewart[33] justly says, there is a lamentable and unnecessary difference of opinion as to the treatment of doubtful tumors of the breast.

Many of the tumors are situated in such portion of the gland as to involve disfiguring scars in a conspicuous locality if an incision is made directly over the tumor. Many operations designed for benign tumors involve an amputation of the breast. This unfortunate organ has suffered countless mutilations in times past in conformity with prevailing customs. Thomas[34] first sought to overcome this difficulty by proposing an incision along the lower and outer border of the breast, but details as to his technic are wanting in the original article, and the method does not seem to have been generally adopted.

In the treatment of cysts Abbé[35] has advocated an exploratory puncture, and gives a large number of permanent cures effected by simply evacuating the cyst. McGraw[36] has also written upon the treatment of cysts by aspiration, and in the main agrees with Abbé, although he notes two cases in which he observed the development of cancer after this procedure. Bull[37] also has long been an advocate of aspiration of cysts, and had no cases of cancer following aspiration in his own experience. McGraw's two cases, however, are excellent concrete examples of the theoretical dangers of aspiration.

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[31] Young, E. B.: Boston Medical and Surgical Journal, vol. cl, p. 319, 1904.

[32] Martin, E.: Archiv. für klin. Chirurgie, 1893, vol. xlv, p. 880.

[33] Stewart, J. Clark: THE JOURNAL A. M. A., Aug. 6, 1904, p. 365.

[34] Thomas: New York Medical Journal, 1882.

[35] Abbé: Medical Record, New York, Aug. 15, 1903.

[36] McGraw: American Medicine, July 25, 1903, p. 142.

At one time I was in the habit of using exploratory puncture to determine the nature of a doubtful growth, and for this purpose used a Mixter punch (a long steel cylinder of small caliber with a handle at one end and sharp edges at the other). Richardson, however, later reported cases in which an extension of the cancerous process was observed along the line of puncture; and although I have succeeded in curing many a cyst by puncture, I have abandoned it as routine practice. In doubtful cases it may cause serious displacement of cancer cells; in cases of cystic disease it disposes only of the larger cysts. I should still use the method, however, in exceptional cases, such as in the presence of a large cyst near the nipple in a small breast which could be easily palpated.

Herbert Snow[38] has recently recommended removal of cystic tumors of the breast by forcible massage. Cysts can undoubtedly be ruptured in this way and permanently cured, but it is not a method of precision, and would be most dangerous advice for general adoption.

Stewart[33] advises an exploratory procedure so planned as to avoid contact of cut lymphatics with any tissues left behind, and any chance of dissemination of cancer cells by pressure before the removal of the breast.

Bloodgood[27] agrees in advising exploratory incision, and states that this operation is the routine treatment of doubtful tumors at the Johns Hopkins Hospital. Curtis[29] and Morris[39] support this recommendation and Morris calls attention to the case with which consent may be obtained for an exploratory operation early in the course of the disease, when the possibility of avoidance of a total amputation can be urged.[40]

The operation which I have gradually elaborated, starting with the so-called Thomas incision, consists in the removal of a V-shaped portion of the gland containing the cyst or tumor, and exploratory radiating incisions in the remainder of the gland. In the early operations I undertook to remove all sections of the gland involved in cystic changes, and in several cases this resulted in removal either of the entire gland or of all but fragments here and there of the cortical portion. These fragments were brought together with catgut sutures placed at certain points, or by a single purse-string suture, so that in the breasts of women possessed of a fair amount of adipose tissue the organ could be reconstructed and the nipple (which previously perhaps had been inverted) could be restored to its normal shape. In this way the outward shape and appearance of the breast could be maintained while the entire mammary gland had been removed. Further experience, however, showed me that this radical measure was in the great majority of cases unnecessary. The details of the operation as I now perform it are as follows:

The preliminary incision is longer than that contemplated by Thomas, and, starting at the lower border of the breast, opposite the middle of the outer arc of the lower inner quadrant, it runs along the lower fold and outer margin to the inner border of the axilla, thus severing the lymphatic connections of the breast with the axillary plexus of lymph glands. The incision should be carried down to the lower border of the pectoralis major muscle, which should be freely exposed. The dissection is then carried along through the loose connective tissue which lies between the pectoral fascia and the posterior layer of the fascia in which the mammary gland lies. With the left hand the operator reflects the breast upward and inward so that the posterior surface of the gland becomes exposed in its entire length. The gland tissue can now be seen through the transparent fascia and easily inspected. If cysts are present they are readily observed, as the majority of them lie in the posterior portions of the gland. Usually there are one or two large cysts lying in the same quadrant. This portion can be removed by a V-shaped incision without opening the cysts. The apex of the V lies directly under the nipple in the central portion of the gland. Radiating from this point incisions can be carried into the gland tissue in all directions, exposing and bisecting all small cysts so that no cyst, however small, remains that has not been laid open by the knife. A second V incision may occasionally be necessary, but this is rarely the case. The next step of the operation, after arresting hemorrhage from the larger vessels, is to close the V-shaped opening with two rows of catgut sutures, one along its anterior borders, and one bringing its posterior edges into contact. The gland is now released from the hand of the operator and dropped back on to the pectoral muscle, and it will be found that the various incised portions of the gland resume their natural positions and fit accurately together. A few sutures may be needed to arrest hemorrhage from small arteries in the gland substance, but this is not usually necessary. The gland should next be anchored to the subjacent pectoral muscle at its outer edge, and still another row of sutures is advisable to hold together the deep layers of the superficial fascia before closing the outer edges of the wound with silkworm gut. The buried sutures are useful in removing strain from the surface suture.

The dressing should be applied so as to produce lateral compression of the two hemispheres, as the ordinary swathe tends to tear the buried gland sutures apart. I have devised for this purpose a bandage which crosses in front and is pinned like a diaper; the ends of each half are then caught into two loops which are attached to suspenders crossing over the shoulders (empire bandage). This bandage can be elaborated into a breast supporter, which is made for me by Messrs. Leach & Greene of Boston. If the breast operated on contains a benign tumor, the tumor can be removed by the V-shaped incision, the double suturing of the gland incision being carried out as before. I have found it better to make a clean V cut even in the cases of the periductal fibromata, as I have always found the capsule of these tumors more closely adherent to the gland tissue than is usually represented to be the case.

In case of exploratory operations for cancer the incision can be carried a little farther from the gland border if necessary and sufficiently deep to sever all lymphatic connections with the axillary lymphatics or those which run through the pectoral muscle. The incision into the posterior surface of the gland, if cancer be found, should be closed by a single suture before proceeding with the major operation.

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[37] Bull: Medical Record, New York, 1899, No. 16, p. 557.

[38] Snow: British Medical Journal, Oct. 17, 1903.

[39] Morris: The Journal A. M. A., Aug. 6, 1904, p. 368.

[40] Other references which may be consulted on the general subject are as follows: Clopton: Inter-State Medical Journal, June, 1904. Dreyfus: Virchow's Archiv. vol. cxiii, p. 535. Ellis: Annals of Surgery, September, 1903. Renton: British Medical Journal, April, 1903. Warren: Annals of Surgery, December, 1904.

I have called this operation plastic resection of the mammary gland, as the incision and subsequent sutures are devised with special reference to restoring the gland as nearly as possible to its normal shape and to improve often the outward appearance of the nipple. In case of inversion of the nipple as is often seen in abnormal involution, the gland tissue should be so laid open from behind that a subcutaneous purse-string suture can be placed around the base of the nipple and force it outward.

I have performed plastic resection of the gland in 66 cases, in 8 of which both breasts were operated on, so that I have performed the operation in all 74 times. The great majority of these operations were for abnormal involution, but in no case have I had any recurrence of cyst formation. It is remarkable how completely all trace of the incisions into the gland tissue disappears. It is usually difficult to tell from the feel, only a few months after the operation, what portion of the gland has been resected. As the outward cicatrix is practically invisible to the patient, the result from a cosmetic point of view is also most satisfactory. In three cases only have I found suppuration of the gland to take place, and this was attributed to infection from the cavity of the cyst. One was a case of large multiple cysts; another was a large cyst near the nipple; and the third was a case of papillary cystadenoma near the nipple in an old woman. I have tested many exposed cysts for bacteria, but have invariably obtained negative results. I should, however, advise the operator to avoid opening the larger cysts if possible, and to use catgut for deep ligatures and sutures, as they are quickly absorbed and leave no trace of their presence in the sensitive structure of the gland. I have had stitch abscess in the skin sutures in two cases only, neither of which was in private practice.

As will be seen from my experience in 74 cases, the operation is attended with little risk or discomfort to the patient, who may be assured that it can be performed without a prolonged convalescence and without disfigurement of any kind. I venture, therefore, to offer it to the profession as a satisfactory substitute for the disfiguring exploratory incision on the anterior surface of the breast, for the uncertainties of puncture, and for the mutilation caused by amputation.

THE DELAY OF OLD AGE AND THE ALLEVIATION OF SENILITY.

ORATION ON MEDICINE AT THE FIFTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT PORTLAND, OREGON, JULY 11-14, 1905.

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In 1805, Lewis and Clark, typical and celebrated among American explorers, turned their faces toward the furthest west and disclosed in a single expedition the possibilities of the continent and the mysteries of the great undiscovered. Their feat was in principle but a repetition of the undertakings of Columbus, De Soto and La Salle, of Daniel Boone and the numberless pioneers who so quickly, almost suddenly, transformed America from a desolate wilderness into the puissant commonwealth of to-day. In each we may discern a discontent with the established order and environment of his heritage; an inspiration to find in newness a satisfaction which the settled regions, settled habits of thought, settled manners of life failed to provide him at home. The word "settled" is significant. Our race is without rest until it settles things; and with this there stalks a poignant impatience with the things that are settled. The new, the undiscovered, the unattained, the unprecedented, this it is which charms American manhood. The Muezzin calling his prayers from a minaret in far away Cairo, the yellow haze in the circumambient air, the camels with jingling bells, the palms turned always eastward by the hot breeze from the monotonous sands,—these possess for the western man no attraction greater than that of poetic interest. In these scenes he could never make his life. The European finds in America every where that which impresses him with our youth; in the Orient, he sees the indisputable evidence of age and a settled order of things. This exploitation of new lands, the cry of "Westward Ho!" which for the past few centuries has stirred mankind, is rapidly, inevitably dying out; but during the long period of its continuance it has wrought important changes in our point of view, it has stimulated a luxuriant growth of thought, it has modified considerably our nature. As our common interest has been fixed upon the untried, we have gradually come to exaggerate the importance of new truths and to ignore the meritorious which the slow moving caravan of thought has brought us from the ages.

Now, it may seem a *non sequitur*, but reflection leads one to inquire if the great appreciation which we feel for the vigorous youth-spirit of recent times, has not educated us to prize, perhaps to over-value, youth, to the disparagement, if not to the absolute neglect, of old age.

In saying this we are not unmindful of the element of truth in the rightly interpreted utterance on this subject of one of our most distinguished colleagues. From the standpoint of the original investigator, as from that of the soldier, or the adventurer, there is nothing to replace the effort of the man under forty; but if for no other reason than to obstruct impetuosity and to provide such a handicap that youth shall not too soon outrun the limitations which a wise Providence has provided, middle and late old age have their uses. At any rate the old man is with us and there appears to be no acceptable method of obliterating him, even if it would add to the welfare of the race to do so.

Finding ourselves in this obvious position, it would seem the wise course so to manage that the disheartening effects of years may be as long as possible postponed; and to seek those methods by whose application we may do our utmost to minimize the terrors of senility. If youth is so delectable, let us find how it *may be protracted*; if old age is so beset with ineptitude, let us not rest until we learn how it may be mitigated. Such a proposal is not quite identical with a scheme for the [illegible]—mere increase in years, although [illegible] include this, however desirable or regrettable it might be. It has to do directly with something about whose desirability there can be no doubt. In other words, I ask your attention to the question of the practicability of *keeping* the various functions of the organism, of preserving the physical and intellectual powers, of delaying the onset of degeneration as much as may be, of developing a race less prone to early decay.

Then, besides this, I wish you to consider the feasibility of so managing the senile when once their degeneration has arrived, that many of their miseries may be avoided and the remainder lessened in degree. Having granted that age is inevitable the average man would seem to have become indifferent to his penalty for living, and, if complainingly, he none the less heedlessly allows his forces to ebb away prematurely. With some the whole of existence seems to be spent in infancy, adolesence and senility. There is no period in which one can say, "there is full, healthy maturity." When examined this early senility is found to result from pathologic processes and there the observation ends as though it were conclusive. But the event is not thus to be disposed of, for, according to our best standards, senile changes are always pathologic, and, therefore, the question of prematurity rests on some pathologic reason for cause, or else upon inherent weakness in human vitality. We are in the habit of speaking and thinking of senility as something separate and apart from disease; as a result, not sufficient attention has been given to the question of prevention of age.

On this subject one can not escape the bold work and bolder thought of Metchnikoff, and I quote at once his description of the degenerations of age. "In senile atrophy the same condition is always present: the atrophy of the higher and specific cells of the tissue and their replacement by hypertrophied connective tissue." It is this same process on which every teacher of medicine constantly harps in discussing disease, the disappearance of the parenchyma and the increase of the stroma.

One need not dwell on the theory of Metchnikoff as to the rôle of the phagocytes in the process; for the moment it is enough to know and to recognize that senile atrophy is pathologic and that, essentially, old age is disease. It is unnecessary to discuss the plausible but startling suggestion—that of finding some antiserum which might antagonize the development of the age producing agencies. Already we possess some knowledge of how to defer age, but this information is not generally insisted on as a guide in living. We frequently allude to measures of prevention, but we do not reduce them to a system which can be taught to the student and to society. If we are further to lengthen the probational study period in medicine, it will be wise to give the matter of deferred old age very careful consideration. If the subject were studied seriously, we would foresee a tremendous improvement in the type of humanity, and the readjustment of many habits, customs, social questions along altogether new lines.

Obviously, real progress cannot be made without accumulating data from which to deduce positive conclusions. At present we lack information on such simple matter as the effect on the organism of diet, exercise, recreation and rest. There are many opinions, but they are largely theroretical. To begin with, we must know something about the material with which we have to deal; that is, the inheritance, the reserve powers, the internal resistance of the individual. In fact, we know very little concerning the inheritance of any one. All are more or less obscure in the matter of family history. There are courts of records in which are found descriptions of estates, but there are no archives in which are deposited accurate descriptions of the various members of the family itself. We are more particular in relation to our domestic animals, especially in the introduction of a new strain. Inquiries are made as to the matter of endurance, longevity, powers of nutrition, good or bad qualities of mind or body, but concerning ourselves, there is an indifference to these important qualities of organic perfection. It would not seem to be altogether impossible to acquire some official record of the physical and intellectual qualities, in other words, strains in men. It is not improbable that if such records were known to exist, they would be not only consulted, but would gradually grow to have an influence on the formation of families. Love is said to know no barriers, but history fails to confirm this view. If a matter of class, of caste, or rank, has been sufficiently important to control the forming of marriage contracts, it is not impossible to conceive of a more intelligent public sentiment which would make an alliance with a family celebrated for physical, intellectual and moral superiority, a thing greatly to be desired; and conversely, which would lead to the abhorrence of an alliance with a family in which freaks, degenerates and incompetents, or in which a tendency towards lowered nutrition, too early maturity, or premature senility were frequent events.

Naturally this is not an affair of a generation, but it is unquestionably a doctrine which ought to be taught. The notion that acquired characteristics can have any transmitted influence on the character of the offspring, as formerly taught by the Lamarckians, is still doing great harm. Our young people should be instructed in the fact that the well-being of their posterity depends almost altogether on the native stamina of the germplasm with which they are endowed. They should be taught to understand the responsibility implied in maternity and paternity, and should be made to recognize that the greatest influence which they can have on the well-being of their children is in the selection of the spouse. The sentiment should be encouraged that parentage is a matter which concerns the public, and especially posterity, more than it does the parent; that the germ-plasm of the race is of all questions the most important which concerns it. Measures could be adopted which would make it more possible than at present for individuals to inform themselves concerning the family characteristics of the contemplated fiancée. A bureau for the precise registration of disease and causes of death, together with the chief facts in family and personal history, might be established through legal enactments, reinforced and made active by a high social sentiment. Such a bureau would afford the needed information, and the special study of the material thus provided would result in the formation of guiding principles in human biology and race development.

Such a system might seem to be contrary to our laws of personal rights, and, of course, the sanctity of reserve may not be easily disrupted. Nevertheless, with Emerson, "We shall one day see that the most private is the most public energy; that quality atones for quantity," and although we cannot attain at a bound to these heights of wisdom, we may, at least, begin to map out a way. He is short sighted who supposes that the complacency shown in the devolution of the race must continue, unchanged, eternally. We have only admiring applause for the remarkable accomplishment of Burbank in the vegetable world, and yet such are our deeprooted prejudices that we shrink from the application of similar principles to human uplifting even when we know it is possible. Shaler remarks that man "sorely needs a herdsman's care." The subject is painful, yet I think it will be acknowledged that susceptibility toward tuberculosis, insanity, alcoholism, epilepsy, *et cetera,* is hereditary. Granting this, it follows that a stock could be developed which practically would be immune to those diseases. Doubtless all will regard the realization of this suggestion to be remote and some may liken it to that of Maeterlinck who says: "Man may sometime master the secret of gravitation and by means of it steer his planet wherever in the universe he wills." The principle is open to such wide application that it may easily be obscured in absurdity. Nevertheless, here is an honest straight-forward truth not so far beyond our reach. It lies in a public demand that none but healthy parents shall be allowed to bear children. The brevity of middle age resides, first, in the inherited quality of the organized tissue; second, in the effects of its environal conditions on each organism. We physicians are making it our function to exterminate disease. Why should we be content with merely pointing out that certain disease tendencies are hereditary without taking some practical steps to prevent such disease transmission? As an illustration, it doubtless would be a hardship to the syphilitic to make procreation for him a penal offense. Nevertheless, such a course would be full of beneficence to the race. The amount of nervous and other disease in the innocent resulting from syphilis in progenitors is incalculable. The incompetence and misery which often overtake the unfortunate victim in middle life as the result of syphilis, one or two generations removed, must be considered. Those who have studied the subject carefully, regard this disease as responsible for one-fifth of all cases of arteriosclerosis, and of yet a higher proportion in those cases occurring in middle life. A man has not the moral right to beget disease. Notwithstanding that it usually comes through ignorance, it should not be allowed. The profession of medicine should make its convictions bear fruit, and should teach and should be expected to teach that the marriage of a large number of people whose nuptials they now help to celebrate, should either be prohibited or else made barren. To those who would regard the realization of these thoughts as unattainable, it may be remarked that the world is yet very young, and as a result, as Carlisle has said, in most things very stupid. At any rate it will be admitted that middle age could be considerably prolonged and the infirmities of old age largely mitigated if we could eliminate from the equation that faulty cell metabolism which arrives through inheritance.

The trend of modern thought is toward the development of the individual. Our researches in therapeutics, dietetics, immunity, gymnastics all alike are directed toward the betterment of the individual by making life possible to many who would otherwise perish, comfortable to many who would otherwise survive in misery—results in prolonging life. Our educational efforts concern themselves more and more with fitting for life the otherwise unfit, in so dealing with the neurotic, the semi-imbecile, the vicious and criminal that they may be practicable units in the body politic. The result is that individuals otherwise impossible are so modified that they are finding some happiness in life and become less disturbing elements in society as a whole. There can be no doubt as to the benefit to the individual, and no doubt as to the good which comes from the reflex effect on society. Perhaps nothing counts more for the moral up-lifting of the masses than the awakening of personal interest in all altruistic undertakings, but let me repeat, we must dismiss as untenable the views of the Neo-Lamarckians that acquired characteristics of the individual have any appreciable effect on the offspring. It is acknowledged that the natural tendency of defectives of all kinds is toward extermination. Left to themselves, many of these weak strains would disappear. In making it possible for these strains to continue to blend and to dilute the organic type of the race, we are unquestionably lowering the future standard of internal resistance and we are creating a threat to physical, intellectual and moral perfection.

On this subject Professor Woods Hutchinson of Portland has said some interesting things.

Is it unchristian or unethical to consider this question from the phylogenic standpoint, or, on the contrary, is it not from the highest ethical plane that we look forward to a means that may elevate man spiritually, strengthen him intellectually, increase his vital and physical vigor, thus widening the period of his usefulness and decreasing his sufferings as a whole? We find ourselves sustained in our efforts when they are directed toward helping the individual, but there seems to be a social veto placed on the study of generic betterment. Weismann and his followers have shown us that the character of the individual depends on the germ-plasm with which he starts life, and although education and favorable environments may modify greatly the individual, they have no effect whatever in improving the character of his posterity. The possibilities of an individual, his resistance to disease, his longevity, his strength and his intelligence are determined beforehand by his inheritance. It is known that it is possible to bring deterioration by introducing an inferior strain. No educational advancement can counteract the injurious effects of this preservation and inbreeding of the bad stock. Unless intelligent foresight be used to prevent this definite and ascertained source of degeneracy, we are likely to find a growing depreciation of our racial stock and, in spite of our modern preventive medicine, a progressive increase of mental and physical disease, and an abbreviation of the working years. By homely methods we have learned that aside from the question of perfect nutrition and proper exercise of function, there is nothing which contributes so unquestionably toward the improvement of organic life as intelligent study of what is known as breeding, in other words by the intelligent blending of the germ-plasm of healthy, resisting, long-lived stock so that there may result not inferior progeny, but offspring superior to the parental stock. I am aware that the question is not new, and that its mere mention exposes one to criticism, not only from the timid and ignorant, but even from the wise and philanthropic; and yet, no one can deny that in shutting our eyes to this truth which Nature spreads plainly before us and which she makes the subject of countless lessons illustrated by individual inferiority, perversity, disease and death, we are not doing all that we ought for the coming race, not all that we might toward assisting that evolution which we hope for, but which lingers so in the process. It will be said that no one can contemplate such a scheme as is here suggested without feeling strongly convinced of its impracticability. Of course, it must be admitted that the large fulfillment of such ideals is at present quite impracticable, but it is not impracticable to study the subject with the hope of finding certain aspects which may admit of modification.

By a study of the subject we would at least offer a reasonable antidote to the possible injurious effects of the modern rage for individualism. More than this, it may be possible, by more or less united action, so to modify established customs, social tendencies and common law that we may elevate the sense of family, and possibly municipal and national morality to a standard high enough to result in our placing the welfare of the community above the desires and the instinct of the individual. As we have somewhat meddlesomely diverted the natural tendency of deterioration and degeneration from its end, thus interfering with the action of the law of the survival of the fittest, it does not seem improper that individualism should recompense society by yielding some of its prerogatives for the welfare of the race; or, to put it more pointedly, it would seem only fair, since we have preserved the life of the weakling, that we should deny him the privilege of paternity, or since we have educated the defective or criminal youth into semi-useful citizenship that we should forbid him the right of increasing the number of his kind. In one of our states a legislative enactment looking toward this end was recently vetoed by the governor who accompanied his decision by a conventional lecture to the profession of medicine on its willingness to disregard the rights of individuals. This illustrates one of the difficulties in the way, and would seem to indicate still another field in which physicians must assume their rôle of public educators. The sentiment of the people is instinctively against public interference with personal privilege. This feeling seems to be particularly strong in the Anglo-Saxon people, and to be contrary to the nature of our institutions; yet, like every other privilege, it is susceptible of doing great evil if carried to its full logical extreme.

Are we not as an organic type suffering from an extreme application of individual rights? Are we not inflicting an injury on the race through permitting unwholesome privileges to the individual? Is it necessarily dangerous to attempt to create a public sentiment, a social feeling toward the making of new customs and the enactment of new laws which may result in the elimination of at least some of the more abhorrent and destructive elements that at present are blending with and antagonizing the evolution of the race? Would it not be desirable to have an aristocracy of health? That is to say, to see developed a zeal for physical and intellectual perfection, and to have that zeal supported by public sentiment, so that there might be created something like a caste, the attributes of which should be mental and physical wholesomeness, and from which should be excluded those families which are shown by carefully studied data to come of degenerate or unfit stock? This would result in a contest between the general and the particular. At present the particular, the individual, prevails; in the presence of rightly adapted social feeling the general would prevail. Evolution would thereby be speeded and not retarded as at present. The principle involved does not seem to be any more unethical than the application of the quarantine laws which now operate injuriously to the individual, but make greatly for the public good.

Let us now consider what may be accomplished in the way of postponing age by the reasonable treatment of even the poor material that comes to us. Undoubtedly the question is as broad as the whole subject of personal hygiene and general therapeutics, and so, for the most part, must be passed; there are, however, some aspects of the subject which deserve special consideration. One of these is the improvement in the nutrition of the aged as the result of good teeth. While all recognize the comfort and convenience which we owe to the dentists, it is doubtful if we fully appreciate how much they have contributed to good health and longevity. For another great advance we have to thank the oculists. Who can estimate the additional resources both of usefulness and happiness secured through the discovery of spectacles and the operation for cataract? Useful eyesight contributes much toward health and long life for the reason that it permits of a continued interest in living which otherwise would be lost. It permits of a struggle for an ideal and in this real happiness consists. The ideal, of course, is never reached, but, as Montaigne says, the reward is not found in the victory, but in the conflict. Perhaps no one factor is so important in maintaining courage and health in old people as the creation and continuance of some keen interest in life, and this interest, even in the otherwise enfeebled, may be kept up by means of useful eyes. Now comes the time-worn but neglected subject of arterial disease.

Too often our attention is for the first time attracted to arteriosclerosis by the appearance of fibroid or fatty degeneration, exhibiting itself in the figure, form and viscera of the individual. Even after these later changes appear measures may be adopted to stay the march of the process, but how much better it would be to anticipate it. For instance, by noting the high and rising blood pressure and the physical signs of cardiac strain, by estimating the decline in urinary solids and the rise in the urotoxic unit, by measuring the decline in respiratory capacity, or by detecting the falling off in cutaneous secretion and the loss of the pliability and softness of the skin, we may make ourselves aware that vascular degeneration is progressing. Heedless of these earlier manifestations we shall soon awake to the advent of the state which Sir James Paget has so marvelously described.

In the earlier steps of arteriosclerosis, if intelligent study be given to the individual, to his habits of life, to his excesses and to his deficiencies, very much can be done, and, by thoughtful men, is done, to delay arterial changes and to restore functional activity.

May I trespass so far as to emphasize the importance of judging and correcting the disturbed balance between assimilation and waste—the anabolic and katabolic processes? The facts are so well understood that one hesitates to mention them, and yet just here there is so much neglect of precious opportunity. There are successful methods of lessening the extent of auto-intoxication and of widening the field for the play of nutritional processes. This is so commonplace that we neglect it. Middle age often brings luxury and at the same period the contracting arteries narrow the field of physiologic activities. The circumstances of life and the taste of the man are for indulgence in appetite or for excess in undertakings, while the limitations of the organism are increased. The tendencies are thus in opposite directions and, with Munsterberg we ask, "How can they keep together who are going different ways?" Ultimately, they must separate, of course, but temporarily they may keep company if we help to preserve harmony between them. There is abundant proof that even advanced arteriosclerosis may be so far modified as to delay the oncoming degeneration and to admit of happy usefulness, but the victim must be content with moderation and not hope, like Mahomet, to cleave the moon in twain.

Advanced arteriosclerosis is too generally neglected, and intoxications of one kind or another are for the most part responsible for it. Our prophylactic and curative measures are readily understood. It is well known that the relatively great fatality of pneumonia and other acute diseases is explained by the greater toxemia which exists late in life. Besides this, the auto-intoxication increases the blood pressure and induces prematurely the fatal events of cerebral, cardiac and renal diseases. Almost as deplorable as these are the conditions of unnatural excitement, confusion and depression from which many people unnecessarily suffer in early old age. Still further there may be found in vascular disease the source of much severe pain from which old people suffer. This pain is often referable to the aorta, at times to those forms of aortitis which Clifford Allbutt has described, and also to aortitis and peri-aortitis of the abdomen recently so well set forth by Teissier of Lyons. The latter has also shown that the pain can be ameliorated, the progress of the disease stayed and even great improvement induced by rational treatment. Aortitis and peri-aortitis often greatly interfere with the flow of blood into the branches of the abdominal aorta, and as a result the organs supplied by these branches suffer special degeneration. In middle age and later life, intractable diseases of the stomach, intestine, kidneys and other organs could be dealt with much more successfully, and comfortable longevity secured, if more attention were devoted to this pathology.

There remains for brief consideration the question of what can be done to make old age more tolerable; in other words, to remove it to a physiologic basis. We find on close consideration that most of the derangements from which the aged suffer can be classified as belonging distinctly to pathology, but I am afraid there exists a tendency among us to dismiss these matters as necessary corollaries of senility, without giving them that careful consideration which similar processes receive in younger patients. To a few the diseases of old age have a peculiar charm, and these few who give senile diseases special study seem to agree that the complaints of the aged arise for the most part from toxic causes. Even the threadbare question of arteriosclerosis falls to a large extent under this head. There is good reason for believing that this toxic state which underlies the decadence of senility takes its origin for the most part in the colon. Metchnikoff supports the view that mammals have developed a large colon for the purpose of storing the products of digestion, and that man has inherited an enormous colon at the expense of his longevity. This organ harbors an immense number of bacteria leading to fermentations, putrefactions and the production of alkaloids, fatty acids and toxins which man has to combat for the length of his mortal days. While vitality is young and vigorous, the combat is not so unequal, but with failing powers auto-intoxication prevails in the contest between the internal resisting powers of the organism and the toxic adversary made potent by inheritance. Unfortunately the degeneration of age first produces functional insufficiency of the organs of elimination, then their degeneration, and as a result we find the skin, kidneys, lungs, liver incompetent in each individual overtaken by years. It is somewhat remarkable that facts so well understood as these do not receive more attention.

There are few text-books, there is little teaching devoted to the pathology and right management of senile disease, and yet experience teaches that few patients respond more satisfactorily than do the aged if their cases are approached with the principles in mind which are here set forth. It is not merely a question of dilatation of the colon, nor of any special defect of the organ; even in the absence of these, the source of auto-intoxication exists and becomes important because of the failure of the skin and other emunctories which, earlier in life, are relatively sufficient. The indications are obvious. In addition to the usual measures for improving the general circulation, old people are benefited by systematic colonic lavage, stimulating baths with superficial massage, prescribed pulmonary gymnastics and an abundant drinking of pure water. It is the almost universal neglect of these matters which has made it seem to me a subject of sufficient importance to call to your attention in a general address. There is something inspiring about youth which gives an incentive to our care of the diseases of childhood and adolescence, but there is something benignant in studying the problems that lead to the postponement of age and to the alleviation of the trials of senility. Old age is repulsive when it is pathologic, but is beautiful when it is physiologic, and it would appear as a fitting theme for the consideration of this great body at its meeting in this new land of the setting sun.

THE INFLUENCE WHICH THE ACQUISITION OF TROPICAL TERRITORY BY THE UNITED STATES HAS HAD, AND IS LIKELY TO HAVE, ON AMERICAN MEDICINE.

ORATION ON STATE MEDICINE AT THE FIFTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, PORTLAND, OREGON, JULY 11-14, 1905.

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It is a custom in many universities, both in this country and in Europe, to allow each professor leave of absence during every seventh year of service. This custom is doubtless based on the Sabbatical year of the Pentateuchal codes, an institution which demanded that the fields be allowed to lie fallow every seventh year. It is a question whether the Sabbatical year, as an institution, could not with benefit be introduced into matters medical, and whether we might not profit by resting every seventh year, and devoting our time, not to the strenuous throes of medical existence, but to a calm, dispassionate review of the progress of medicine in the preceding septennate, and the factors which have influenced that progress. With this idea in view I have chosen to speak to-day on an aspect of our medical progress which is now in its Sabbatical year.

It is at present almost exactly seven years since, by the terms of treaty following the Spanish War, the United States came into possession of tropical territory in both the eastern and the western hemispheres. It is unnecessary and inappropriate to discuss here the general significance of this territorial acquisition, its bearing on politics, its effect on commerce, its influence on public affairs in general; it is sufficient if we, as the representatives of the medical profession of this country, take stock of the medical questions involved, discuss their significance, and gauge the effect which they exert on American medicine in general. No doubt many of our hyperopic brethren foresaw, seven years ago, some of the effects which our acquisition of Porto Rico and the Philippines was to have on American medicine. There is just as little doubt that some of the results were entirely unlooked for, and have been complete surprises. It might appear at first sight that, from analogy, we should have been able to foretell the influence which increased commerce with our tropical territory, and the return of our soldiers and sailors with tropical diseases, would have on medicine in the United States. Obviously one would look to the experience of European countries, and notably of England, to form a basis for judgment, for these countries have had tropical possessions for generations. It must not be forgotten that the physical conditions here are different from those in Europe, for while Europe is almost entirely within the temperate zone, portions of this country are semi-tropic, and a few very small areas are actually within the tropical belt. The United States, therefore, presents a much more favorable soil for the transplantation of tropical diseases than does Europe. Realizing this, numerous American writers on tropical diseases have sounded, in the last seven years, notes of warning and alarm. Their apprehensions are based more on theoretical grounds than on observed facts, but for all that are worthy of our most serious consideration. The object of this inquiry is to determine, if possible, how great this danger is. What are the prevailing diseases of our tropical possessions? Which of them, if any, has appeared among us; which, if any, has gained a foothold on our soil; and which may possibly become widely distributed? Aside from endeavoring to answer these questions, we may with profit glance at the effect which the study of tropical diseases has had on the comprehension of cognate diseases in the United States, and also observe that it has led to the recognition in this country of unsuspected diseases of wide distribution, and great economic importance.

UNCINARIASIS.

Perhaps one of the most startling results of the increased interest in tropical diseases has been the discovery that large sections of the southern portion of this country are infected with the hookworm, and that large numbers of the inhabitants are suffering from uncinariasis (ankylostomiasis) or hookworm disease. The starting point of this remarkable discovery was, almost certainly, the work of Ashford in Porto Rico in 1900. This observer noted the great frequency of the disease in that island, and pointed out that, to a large extent, the disability and wretched condition of many of the natives was due to it. The credit for drawing attention to the probability that the disease was widespread in our southern states is due to Charles Wardell Stiles, the zoologist of the Bureau of Animal Industry, and to him also is due the credit of amply proving what he at first brought forward merely as a probability. It would be out of place here to go into detail as to the clinical history of this disease, or the minute structure of the parasite which causes it. Mention must be made, however, of Stiles' discovery that the American uncinaria differs from that of Europe. It will be of interest to consider the geographical distribution of uncinariasis in this country, the main facts connected with the method of its spread, and the evidence as to the likelihood that it will become more widely prevalent than it is at present.

Up to the year 1900 not more than ten authentic cases of uncinariasis were on record in American literature, though there are statements by southern physicians in the writings of the early part of the nineteenth century which leave little doubt that the disease was then prevalent. During 1900 and 1901 only nineteen cases of the disease were reported, but in 1902, following the publication of Stiles' monograph on "The Significance of the Recent American Cases of Hookworm Disease in Man," the number of reported cases rose at a bound to 524. In 1903, 273 cases were reported; in 1904, 334; the number this year will probably not be so large, as the disease is no longer a rarity to southern physicians, and they will not be so apt to record cases. Prior to 1900, then, possibly ten authentic cases of hookworm disease had been reported; since this date I have been able to collect from the available American literature 1,212 cases, of which 1,095 originated in the United States, and 117 were imported from other countries, mainly from Porto Rico and the Philippines. Of the latter 62 are reported by Gunn, and occurred in San Francisco, mainly among Porto Ricans.

If we separate the domestic from the imported cases we find that this disease is distributed mainly through the southern states along the seaboard from Virginia to Texas. But it is not confined to seaboard states, for Missouri and Tennessee are also infected. The states in which the disease is known to be indigenous, and probably widely distributed, are Virginia, North and South Carolina, Georgia, Alabama, Florida, Louisiana, Texas, Mississippi, Missouri and Tennessee. This list of states includes only those in which definite evidence of the presence of the disease has been furnished; it does not include, I think, all of the infected states. Taking into account the similarities of soil and climate, anyone who will take the trouble to make a map of the known infected area will feel convinced that Arkansas, Indian Territory, Oklahoma, West Virginia, Kentucky, and the southern portions of Illinois, Indiana, and Ohio are also probably infected. The physicians in some states have shown a lamentable lack of enterprise in investigating this disease, while in other states extensive and valuable studies have been made of it. As I have already stated 1,095 cases of domestic uncinariasis have been reported since 1900; 824 of these have been observed in three states, Georgia, Alabama, and North Carolina. This has been due to the interest and energy of single physicians, in Georgia of Claude A. Smith, Warfield, and Harris; in Alabama of E. D. Bondurant, and in North Carolina of Nicholson and Rankin. A knowledge of the distribution of the disease is not merely of academic importance, for the economic aspects of uncinariasis are paramount. There is little doubt that the stigma of laziness and general inefficiency which has attached for generations to the so-called "poor whites" of the South has been earned by them not as a result of qualities due to innate "cussedness," but because a large percentage are suffering from uncinariasis with the resultant physical and mental deterioration. This being the case, a plotting out of the infected areas is one of the first steps which must be taken preparatory to stamping out the disease. This is only one step, however, the others depending on our present conception of its method of spread. At present there are two main theories as to the means by which the parasite gains entrance to the body, the one presupposing that it enters through the alimentary canal, the other that it gains entrance through the skin. The advocates of the former theory hold that polluted drinking water, and food soiled by dirty hands are the means of introduction, the advocates of the latter, that the so-called "ground itch" is the point of entrance of the *Uncinaria rhabdites*. There is a good deal of evidence in support of both views, though the work of Claude A. Smith and of Nicholson and Rankin favors the idea that the cutaneous form of infection is the more important. In view of this the wearing of shoes, especially during the rainy season, becomes the most important prophylactic measure, though the necessity for pure water supplies and the proper disposal of excreta still remains of great importance. In all such matters the enforcement of hygienic laws can never be obtained without education of those who are at fault. As uncinariasis is essentially a country disease (I have not been able to find on record a single American case which originated in a city), the question is one which must be dealt with by the country physician, on whose back falls a heavy load of responsibility. The stamping out of this disease is, of course, of great economic importance to the South, but, further than this, the question arises whether it may not be of importance to other parts of the country. Is there any chance that uncinariasis may become more widely distributed than it is at present? The question is a hard one to answer. While there has not been a lack of physicians who have predicted such a spread, it cannot be said that there is much actual evidence that it has occurred. There are a few instances in American literature in which the evidence plainly points to infection of natives from imported cases. Such, for example, are some of the cases reported by Möhlau in Buffalo, where Polish and Italian laborers contaminated a brickyard. That such sporadic outbreaks can and will occur can not be denied, and physicians all over the country should be on the lookout for them. Whether the disease will ever become widespread outside of its present habitat is quite another story. It must not be overlooked that a variety of circumstances are necessary to its spread; the right kind of soil, sufficient heat, and enough moisture for the parasite, and a lack of certain hygienic precautions on the part of the inhabitants of the area to be infected. The absence of any one of these conditions may be fatal to the dissemination of the disease. Considering the fact that uncinariasis has existed in the South for at least 100 years, and probably longer, it does not seem very probable that it will ever extend much beyond its present limits. What is needed at present then, is a more accurate knowledge of its distribution, and the inauguration of an educational and sanitary campaign to effect its extermination.

DYSENTERY.

One of the first diseases which the American army surgeons in the tropics had to confront was that scourge of camps, dysentery. The study of the acute form of the disease had received a great impetus from the work of Shiga in Japan, and the investigation of this condition in the American troops in the Philippines, instigated by Flexner, has since been carried on by Strong and Musgrave, J. J. Curry, and Charles H. Craig. It can fairly be said, I think, that our conception of the etiology of dysentery, and particularly of the tropical form, has been completely revised in the last few years, and this revision has depended, in no small measure, on the work of American investigators. So far as tropical dysentery is concerned, the studies of recent years have taught us to recognize two distinct forms, the bacillary and the amebic. The bacillary form, of which the acute dysentery of the tropics represents the most common type, is due to an organism first described by Flexner, and closely allied to the bacillus described by Shiga in the epidemic dysentery of Japan. In the chronic forms the ameba seems to have held its ground as the main causal agent, though the earlier investigators in the Philippines seemed inclined to think that it was usually a secondary invader. Our knowledge of the life cycle of the ameba, of the differentiation of pathogenic from non-pathogenic forms, and of the cultivation of the organism, has been achieved in the past few years, and is associated with the names of Craig, Strong and Musgrave, and Caspar Miller. A more exact knowledge of the complications of dysentery has also resulted from the work of our army surgeons, and it is to be especially noted in this connection that the so-called "tropical" abscess of the liver is nearly always due to the amebic as opposed to the bacillary form.

The most surprising and unlooked-for result of the stimulus given to the study of dysentery has been the discovery that the same group of organisms which is responsible for tropical bacillary dysentery is also concerned in dysentery in this country, and in certain forms of the summer diarrheas of infancy. The first steps in determining these relationships were taken under Flexner's guidance during 1902. In that year Vedder and Duval published the result of their work on the dysentery of the United States, work which was based on both sporadic and epidemic cases, and which showed that certain types of dysentery all over the world were due to the Shiga group of bacteria. In the same year Duval and Bassett published their preliminary announcement of the isolation of bacteria of the same group from cases of infantile summer diarrhea. Subequent studies, conducted mainly at the large centers in the East, have, in the main, confirmed these observations, and have led to more accurate knowledge of both the clinical and bacteriologic aspects of these two classes of disease. Since 1903 investigation has been mainly focussed on the summer diarrheas of infancy, the scourge of the tenement districts of the large cities. These studies have resulted in the classification of the *Bacillus dysenteriæ* into three main types, a differentiation which was suggested in part by Gay and Duval in 1903, and which has since been rendered more exact by the work of Hiss and Russell, and that of W. H. Park and his associates. On the clinical side it has been shown that all classes of summer diarrhea are not due to organisms of the dysentery group, but that certain types associated with mucus and blood in the stools are nearly always associated with them. It has also been shown that these organisms, like the pus cocci, may give rise to primary infections, or may play the rôle of secondary or terminal invaders. Mild cases without blood in the stools may also be due to this group of organisms, accurate and early diagnosis only being possible in any type of case by means of a bacteriologic examination of the feces. The serum reaction, while of some value, appears late in many cases, and is not available for early recognition of the disease.

In his report on Philippine dysentery Flexner suggested the possibility of serum therapy in these cases, and the discovery of the relation of the *Bacillus dysenteriæ* to infantile summer diarrhea led to attempts at the production of a curative serum. During 1904 such a serum was used in a number of outbreaks of dysentery and summer diarrhea. The results, as a whole, have been disappointing, but will probably improve as we gain in experience. As Booker pointed out in 1903, little is to be expected from the serum in cases in which marked anatomic lesions are present. The work done under the Rockefeller Institute and summarized by Holt shows that the serum to be of value must be used early and in repeated doses. Judging from the results of Shiga in Japan more is to be expected for the serum treatment, and, as a matter of fact, it has not yet received a fair trial in this country. At present we need more knowledge regarding the natural history of the dysentery germ, its method of introduction, and the distribution of this form of infection in the United States. As regards the means by which the germ is introduced into the body there is already some evidence, both from the Philippines and this country, that contaminated water is at fault, but the whole matter needs more thorough investigation. The distribution of this form of infection has hardly been studied outside of the large cities of the East, and although the severe forms of infantile diarrhea are almost unknown on the Pacific Coast, there is little doubt that they exist in the South and middle West.

YELLOW FEVER.

At the time that the Island of Cuba was occupied by American troops in 1898, yellow fever had been endemic there for 130 years. The disease was not widespread, but was mainly confined to the coast towns, and was particularly prevalent in Havana, the continuous stream of non-immune Spanish immigrants serving to keep up the infection. A great deal of study had been devoted to the disease at this time, and in the years immediately preceding the Spanish war renewed interest had been awakened by the work of Sanarelli, who claimed to have found the causal agent in his *Bacillus icteroides*. His claims had met a good deal of opposition, especially from Sternberg in this country, and many yellow fever experts did not accept his results. In view of the prevalence of the disease, and the constant menace which it offered to our southern states, a commission composed of Walter Reed, James Carroll, Jesse W. Lazear, and Aristides Agramonte was detailed to Cuba to study it still further. The commission presumably started out with a disbelief in Sanarelli's work, for certain of the members had published investigations showing that the *Bacillus icteroides* was closely allied to, if not identical with, the hog cholera bacillus. While Sanarelli's work was repeated as a necessary precaution, and was proved to be erroneous, the commission concentrated its efforts on the investigation of the relation of the mosquito to yellow fever, a relationship which had been insisted on by Carlos Finlay of Havana for nearly twenty years, and which the work of Carter on the time limit between primary and secondary cases rendered probable.

It is not necessary to go into details as to the methods used by the commission in their work, further than to state that they were scientifically above reproach. It will be of interest, however, to consider their results, and the influence which they have had on the practical aspects of yellow fever quarantine. Briefly stated these results were as follows: The proof that Finlay's conception that yellow fever is conveyed by a certain variety of mosquito (*Stegomyia fasciata* of Theobald) is correct. The demonstration that a certain time must elapse after the mosquito is infected before it can transmit the disease; that the causal agent is in the blood during the first few days of the disease, that it can be destroyed by heat, and that it can pass through filters which hold back some of the smaller forms of bacteria. The explosion of the old idea that the disease can be conveyed by fomites, unless these are of a character to allow of transmission in them of infected living mosquitoes. These are the main results, and they have led to greater accuracy in our knowledge of the incubation period of yellow fever, increased study of the yellow fever mosquito, and an entirely new conception of the prevention of the disease. Since the original work of Reed, Carroll, Lazear, and Agramonte several independent observers have confirmed their findings, notably Guiteras in Cuba, Marchoux, Salembini, and Simonds in South America, and the working parties of the U. S. Public Health and Marine-Hospital Service in Vera Cruz, Mexico. The investigations carried on under the Public Health and Marine-Hospital Service have also supplied many details extending our knowledge of mosquito transmission, of the life history of the yellow fever mosquito, and of quarantine methods against the disease. Few discoveries in medicine have led to more rapid and more brilliant practical results than those above cited. The story of the remarkable change in the yellow fever history of Havana achieved by the work of Gorgas reads almost like a romance. When we consider that the annual number of deaths from yellow fever in Havana for the ten years preceding the establishment of the mosquito theory averaged about 500, and that under Dr. Gorgas' administration they were cut down in two years to nothing, we can enthusiastically echo the sentiments expressed in a resolution of the conference of State and Provincial Boards of Health, in which they say: "We regard (it) as one of the most brilliant achievements of the application of sanitary science to public health work ever accomplished." Judging from recent reports it seems likely that Gorgas will repeat his Havana success in the Isthmian Canal zone. We have still to discover the cause of yellow fever, and we have still to ward off its advances in our southern states. So long as our Central and South American neighbors pursue their present lax sanitary methods we are liable to have sporadic outbreaks of the disease in those regions in which the *Stegomyia fasciata* can multiply. As Carter and Howard have shown, this mosquito is widely distributed in the subtropic portions of our country, and it behooves us to continue with the work of mosquito extermination, to increase its range as rapidly as possible, and to keep up with its oldtime strictness the quarantine of vessels, especially sailing vessels, from infected ports. The protection of our land boundaries to the south will, of necessity, be much more difficult. and judging from the recent experience in Texas, it is by this route that infection is now most likely to reach us.

MALARIA.

The soldiers returned from Cuba and Porto Rico, and later those from the Philippines, offered an opportunity for the study on a wholesale scale of certain aspects of malaria, an opportunity which was grasped by both military and civilian physicians. During and immediately following the Spanish War the accomplishment of greatest importance resulting from this study was the overthrow of the refuge of the careless diagnostician, typho-malarial fever. Those physicians who had studied malaria and typhoid fever carefully before the war, and who had controlled their diagnoses by blood examinations, had always been skeptical about the existence of combinations of the two diseases, and had published from time to time protests against the indiscriminate use of the term typho-malarial fever. It needed the studies of the camp fevers, however, to prove to the satisfaction of most physicians that the combination was exceedingly uncommon, and that when it occurred the malarial fever preceded, or more commonly, followed the typhoid fever. In his remarks on the subject, based on the examination of the blood of 159 typhoid cases at Camp Wikoff, Ewing says: "In no case of undoubted and established typhoid fever were malarial parasites found in the blood in connection with any of these sudden rises of temperature (in typhoid), but only at the onset of the disease or during convalescence," and later in his article, "In short, in spite of painstaking effort, the attempt to find a case of typhoid fever and active malaria progressing simultaneously was unsuccessful." Aside from this, the clinical study of the disease has received but few important additions since 1898, though mention must be made of the valuable studies of Craig on latent and masked malaria, studies which showed how great the danger to a community might be from soldiers returned from the tropics. In his article published in 1904 Craig states that 25 per cent. of the soldiers returning from the Philippines show latent or masked infections, and in a large percentage of these cases the parasite is the estivo-autumnal crescent, a stage of the organism capable of development in the mosquito. The same observer cites one company of 60 men in which 41 had parasites in their blood, and yet but 14 complained of illness.

As far as the parasitology of malaria is concerned, the past seven years have been marked by great simplification in staining methods, but discoveries of paramount importance have not been numerous. The studies of Craig on estivo-autumnal fever have tended to confirm the views of the Italian school as to the duality of its parasite, and the work of Ewing on the tertian parasite has thrown light on its early sexual history in the circulating blood. Working Party No. 2 of the Yellow Fever Institute has been able to show that at the time of the malarial chill there is present in the blood a toxin, and have been able to produce a chill by the intravenous inoculation of filtered blood extracted during the paroxysm.

The study of the distribution of the malarial mosquito has been carried on in a few places, in Boston by Theobald Smith, in the Valley of the Androscoggin by Jordan, and in Baltimore by Hirshberg and Dohme, but the amount of work which has been accomplished in this direction, and the time and money which have been expended in the attempt to exterminate the malarial mosquito, is almost infinitesimal when we consider the territory affected by the disease, and the losses resulting from it. Woldert estimates the annual financial loss in Texas alone at over $5,000,000, and if all the infected zones in the United States are considered the loss must be appalling. Like yellow fever, malaria is a perfectly preventable disease, but to stamp it out requires either destruction of malarial mosquitoes, or protection and sterilization of infected individuals. In this country mosquito extermination has always been the favored plan, but before it can be accomplished a much more complete knowledge of the distribution of the anopheles is necessary, and much more thorough education of the public as to the necessity of the work. The danger that the disease may be introduced into uninfected areas by soldiers returning from the tropics is a real one, though, as Theobald Smith has shown, it is unlikely that the estivo-autumnal parasite will be introduced into the northern states. Still, we have plenty of southern territory not yet infected, and the extermination of mosquitoes would prevent the possibility of such contamination. The question is one which has not yet been seriously considered in large sections of the country, but is, nevertheless, of the greatest importance.

FILARIASIS.

The work of Ashford in Porto Rico, and of Calvert in the Philippines has shown that filariasis exists in both places. In Porto Rico it is probably widely distributed, as Ashford found it in 30 out of 250 soldiers in the Porto Rican regiment. Cases of Gunn and of Brown have shown that infected individuals from this source have already reached this country. In the Philippines the extent of the disease is doubtful. Calvert found the filaria in only two out of 426 Filipinos, but it is to be noted that both of these individuals came from the same district, and it is likely that the disease is much more prevalent in some places than in others. In this country several domestic and imported cases have been reported since 1898. It seems extremely likely that the disease is much more common in the South than the literature would indicate, and that it is often overlooked. The fact that one man, De Sassure of Charleston, was able to report 22 cases, most of them originating in the United States, is pretty strong evidence that the disease is much more prevalent than is generally supposed. It is certain that there are present in this country varieties of mosquito capable of transmitting the filaria. As these generally belong to the *Culex* family, which is widely distributed throughout the United States, it seems possible that there is real danger of new districts becoming infected by returning soldiers or Porto Rican laborers. Before the matter can be definitely settled we need more information as to the exact varieties of mosquito which can transmit filariasis, and their distribution in this country. At present it is quite generally assumed that a number of varieties of *Culex*, and at least one of *Anopheles* can transmit the disease. We believe it was Myers who brought forward evidence to the contrary, and the matter is one which needs further investigation.

MALTA FEVER.

The fact that Malta fever was present in Porto Rico was first demonstrated by Musser and Sailer, and later by Cox and Curry. In 1900 Strong and Musgrave called attention to its occurrence in the Philipines, and still later cases occurring in returned soldiers were described by Curry and Craig. The number of cases which has been described is small, and practically all of them are in soldiers and sailors. In the seven years which have elapsed since the first case was reported in this country, no case originating here has been described, and it seems that there is little likelihood of the disease becoming disseminated in the United States. It is within the bounds of possibility, as Curry pointed out, that it already exists in the southern states. In its acute form it is easily confounded with malaria, and in its chronic stages it is generally diagnosed at first as chronic rheumatism. The serum reaction of the disease is so reliable, and the test is so easy of performance, that all cases with doubtful fevers in the southern states should be subjected to it. It seems highly probable that if this is done systematically the disease will be found to be present.

TRYPANOSOMIASIS.

The relation of trypanosomes to animal diseases was observed in the middle of the last century, and renewed interest has been awakened in these parasites in recent years by the discovery of new forms of animal trypanosomiasis, and by the observations on human trypanosomiasis initiated by the work of Dutton. The presence of the trypanosome infection known as surra among horses and buffalo in the Philippines was noted soon after the American occupation, and the results of American researches on this disease may be found in the valuable monograph of Musgrave and Clegg. Up to 1903 attempts to isolate trypanosomes in pure culture had been ineffectual, but in that year McNeal and Novy published the results of their work on the rat trypanosome. They were able to obtain the first successful pure culture of a pathogenic animal parasite with the absolute demonstration of its causal relation to the disease. Up to this time many observers believed that the different forms of animal trypanosomiasis were due to the same organism, but during 1903 and 1904, Novy, McNeal, and Ward were able to cultivate the trypanosome of nagana or tsetse disease, and also that of Philippine surra, and could demonstrate that the parasites from these different diseases showed variations in structure and mode of growth. Later Lewis and Williams succeeded in cultivating the frog trypanosome, showing that this also differs from the other forms. Some forms of animal trypanosomiasis have appeared in the United States, dourine having been observed in Nebraska. Whether there is any possibility of the introduction into America of human trypanosomiasis will be difficult to determine until we know more of certain forms parasitic in man, and the method of their spread. The form of the disease which is most likely to be found in the Philippines, and hence most likely to appear in this country, is the affection known in India as kala-azar or dum-dum fever. The parasite of this disease, usually spoken of as the Leishman-Donovan body, has recently been shown by Rogers and Chatterjee to belong to a sub-family of the trypanosomes. The method of transmission of this form of the disease to man is not definitely known so far as we can determine; it is probably transmitted like nagana by an insect, most likely a mosquito. The possibility of its introduction into this country will probably depend on the presence or absence of some insect host.

DENGUE.

A disease which does not seem to have received the study which it merits, considering its frequency, is dengue, or break-bone fever. The Reports of the Surgeon General of the Army for 1902 and 1903 show that in the Philippines it caused, in the former year, 31.67 cases of sickness per 1,000 of strength, and in the latter year 171.39 cases per 1,000 of strength. Presumably it has not been carefully studied in the Philippines, or in the South, where it also occurs, on account of its short duration, and the almost absolute lack of fatalities. In the Isthmian Canal Zone it has been studied in the last two years by Sutton and Carpenter. They have shown that it is probably not of the malarial class of diseases, but that it may, as Graham claimed, be transmitted by the mosquito. Their studies of the blood show that it is one of the diseases accompanied by leucopenia and relative lymphocytosis, and their bacteriologic studies suggest that a bacillus similar to the influenza bacillus may be the cause. The disease is one which, judging by its past history, is unlikely to spread beyond the southern parts of this country. It is worthy of more extended study by modern methods than has yet been devoted to it, and American physicians in the Philippines and the Isthmian Canal Zone will probably have excellent opportunities to clear up many moot points in connection with this disease.

ASIATIC CHOLERA.

During 1902 Asiatic cholera appeared in Manila, spread to the neighboring islands, and caused over 90,000 deaths before it was stamped out. The incidence of the disease among the whites was comparatively small, but among the natives it ran rife, owing to their lack of hygienic precautions and the favorable temperature conditions. In many instances the disease was not carried, as usual, by contaminated water, in fact, in the large cities indirect contact through food was a much more frequent method of spread. On account of the violent local reaction produced by Haffkine's cholera prophylactic the natives objected to its use, and as the scattered distribution of the population made it almost impossible to control them, this method was given up. The objections to Haffkine's prophylactic lead R. P. Strong to attempt the production of a protective serum lacking in the irritating properties of those hitherto used. By a process of bacterial autolysis followed by filtration of the culture he was able to produce a practically non-irritating protective. From the experimental standpoint Strong was able to show that animals and men treated by his method showed but little local reaction, yet developed in their blood substances strongly bactericidal to the cholera spirillum. As the cholera had practically disappeared from the Philippines at the time that Strong's work was completed there has as yet been no opportunity to put his method to a practical test. From what we know of the disease there is little likelihood that it will ever get a foothold in this country under our present quarantine regulations.

PLAGUE.

The appearance of plague in several parts of the civilized world in 1900, and especially its appearance in San Francisco and the Philippines, called the attention of American medical men to this disease. Luckily, but few of them had an opportunity to study it, and most of the American work on this disease has been done in the Philippines, where, according to Munson, 970 cases with 812 deaths occurred between January, 1900, and September, 1903. It can not be said that anything startlingly new was discovered during this period, but a good deal of valuable confirmatory work was turned out. In this connection must be mentioned the work of Barker, Flexner, and Novy on various aspects of the subject, the work of Calvert and Ewing on the occurrence of plague bacilli in the circulating blood, and the work of Herzog and Hare on latent and ambulatory plague. The outbreaks of the disease in Australia, in Honolulu, in Glasgow, and in San Francisco have served to warn us of the necessity of being constantly on guard against its insidious approach. The recent outbreak in Leith, in which, as in the San Francisco outbreak, the origin of the disease was in doubt, shows us that at all our seaports constant vigilance must be maintained, and this must be the case so long as endemic foci are present in Asia. In the preventive work in this country, in this as in other infectious diseases, too much praise cannot be given to the officials of the U. S. Public Health and Marine-Hospital Service who, besides having to bear the burden of their appointed work, have often also to suffer the slings and arrows of outrageous politicians, and the contumelious taunts of misguided citizens.

CONCLUSION.

We have now considered the more important of the tropical diseases which occur in Porto Rico, the Philippines, and the newly acquired Isthmian Canal Zone, the effects which their study has had on American medicine, and the chances of their becoming domiciled in this country. It has been possible to touch on many important subjects but lightly, and I ask your indulgence for the sketchy manner in which the subject has been treated. Of necessity a number of tropical diseases have not been mentioned, tropical ulcer, frambesia, bilharziasis, and blackwater fever, for example. These diseases are all present in our tropical possessions, but are of relatively minor importance, and as yet have received but little attention from American observers. Two general conclusions are forced on us as a result of this study, one being that many of the so-called "tropical" diseases are widely scattered through the subtropical portions of this country, the other that the acquisition of tropical possessions by the United States has had a markedly stimulating effect on American medicine, and has led to valuable work, some of it of the very first rank, all of it showing evidences of earnest and painstaking effort.

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A CASE OF PERIPHERAL NERVE SYPHILIS.*

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That the peripheral nerves, both cranial and spinal, frequently become affected in the course of cerebrospinal syphilis, is every-day experience. Disease of peripheral nerves or nerve-roots without co-existent syphilis of the central nervous system, is rather unusual. Of all cranial nerves the trigeminus is most often affected singly by the specific process. This may occur as part of a periostitic process in the foramina of exit; at the optic foramen, foramen ovale and foramen rotundum; or as a result of destructive processes in the nucleus by hemorrhage, softening, sclerosis or tumor. Isolated disease of the trigeminus, however, is exceedingly rare. The rule is for other nerves to be involved along with the trigeminus in the following order: Optic, facial, oculomotor, abducens, auditory, olfactory, trochlear. The facial, acousticus and motor nerves of the eye are frequently affected together and constitute part of a basal meningitis.

The clinical phenomena of peripheral nerve-syphilis manifest themselves either as neuralgia, polyneuritis, or root neuritis. Of the cranial nerves the trigeminus is usually the seat of isolated or simple neuralgia, which differs in no respect from ordinary trigeminus neuralgia from other causes. The same is true of the symptomatology of facial and auditory neuritis. It is evident that the diagnosis can not be made from the symptoms, but from the history of specific disease and the discovery of the stigmata of syphilis.

Nonne in his book on "Syphilis of the Nervous System," best describes root neuritis in Kahler's words:

> In an individual, the subject of syphilis, or who has had syphilis, there appear besides other cerebral symptoms, or without any brain symptoms, gradually progressive paralyses of various cranial nerves, which are recognized as peripheral, for instance, facial paralysis. One nerve after another is attacked in a most irregular succession. In the second place, there may appear gradually increasing neuralgias in various spinal nerves, with hyperesthesias, or girdle pains, as a consequence of posterior root involvement. Disease in the anterior roots will manifest themselves by corresponding motor paralysis of the peripheral type.

Patient.—A. Y., German, aged 40, single, a cook, entered the Cook County Hospital, March 17, 1905.

History.—His family history is negative. He is a moderate smoker, never drank spirits and but little beer. He had

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* Presented before the Chicago Neurological Society, 1905.

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A CASE OF PERIPHERAL NERVE SYPHILIS.*

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CHICAGO.

That the peripheral nerves, both cranial and spinal, frequently become affected in the course of cerebrospinal syphilis, is every-day experience. Disease of peripheral nerves or nerve-roots without co-existent syphilis of the central nervous system, is rather unusual. Of all cranial nerves the trigeminus is most often affected singly by the specific process. This may occur as part of a periostitic process in the foramina of exit; at the optic foramen, foramen ovale and foramen rotundum; or as a result of destructive processes in the nucleus by hemorrhage, softening, sclerosis or tumor. Isolated disease of the trigeminus, however, is exceedingly rare. The rule is for other nerves to be involved along with the trigeminus in the following order: Optic, facial, oculomotor, abducens, auditory, olfactory, trochlear. The facial, acousticus and motor nerves of the eye are frequently affected together and constitute part of a basal meningitis.

The clinical phenomena of peripheral nerve-syphilis manifest themselves either as neuralgia, polyneuritis, or root neuritis. Of the cranial nerves the trigeminus is usually the seat of isolated or simple neuralgia, which differs in no respect from ordinary trigeminus neuralgia from other causes. The same is true of the symptomatology of facial and auditory neuritis. It is evident that the diagnosis can not be made from the symptoms, but from the history of specific disease and the discovery of the stigmata of syphilis.

Nonne in his book on "Syphilis of the Nervous System," best describes root neuritis in Kahler's words:

> In an individual, the subject of syphilis, or who has had syphilis, there appear besides other cerebral symptoms, or without any brain symptoms, gradually progressive paralyses of various cranial nerves, which are recognized as peripheral, for instance, facial paralysis. One nerve after another is attacked in a most irregular succession. In the second place, there may appear gradually increasing neuralgias in various spinal nerves, with hyperesthesias, or girdle pains, as a consequence of posterior root involvement. Disease in the anterior roots will manifest themselves by corresponding motor paralysis of the peripheral type.

Patient.—A. Y., German, aged 40, single, a cook, entered the Cook County Hospital, March 17, 1905.

History.—His family history is negative. He is a moderate smoker, never drank spirits and but little beer. He had several venereal sores about 8 years ago; one of these was a hard chancer. This was followed by secondaries, such as sore-throats, alopecia, mucous patches and eruptions. About seven years ago he suffered from what he calls acute articular rheumatism. His joints were swollen and painful for three months and the disease disabled him altogether for about six months. Last September he experienced severe pains in his left thigh which he considered rheumatic. After the application of some liniment he discovered that not only was his thigh smaller and weaker, but that his left eye was also turned inward and that he saw double. A two months' stay in the hospital brought about much improvement and subsequent treatment at the Illinois Eye and Ear Infirmary completed the cure. The condition of the thigh, however, has remained unchanged.

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* Presented before the Chicago Neurological Society, 1905.

He now comes to the hospital on account of severe pains in the entire right half of his face, which affect principally the right ear, but also involves the lower maxillary region. For a week he suffered constant pain, which even a tooth extraction failed to relieve.

Examination.—The patient is a small, poorly nourished man of middle age, who talks rather rapidly and stammers considerably. His face presents a typical peripheral facial paralysis. The wrinkles on the right half of his forehead have disappeared, the right eye does not wink, the right half of the face has lost all expression, the right corner of the mouth droops, while the left is drawn up high. When he attempts to wrinkle his brow the right half remains motionless. Sniffing is only done with the left half of the nose, in speaking only the left half of the mouth functionates, and in an attempt to uncover the upper teeth, only the left side responds.

In an effort to close the eyes, Bell's phenomenon is elicited on the paralyzed half of the face, to-wit: the affected lid fails to completely cover the eye-ball, and, instead, the latter turns upward and outward so as to hide the iris.

The pupils are equal and react well to light and in accommodation. While there is subjective pain in the region of the ear, there is no tenderness over the mastoid, and objective sensory disturbances can not be elicited. No signs of external or middle ear disease can be found. There is no nerve-deafness. The tongue is protruded in a straight line. Taste is markedly impaired in the anterior two-thirds of the right half of the tongue. The post-cervical and inguinal glands are slightly enlarged.

The left thigh is considerably smaller than the right, and its strength is greatly reduced. There is tenderness at the point of exit of the sciatic nerve. When the sciatic is put on the stretch there is some pain. The thigh muscles on the left side are soft and flabby and present distinct atrophy.

On the middle third of the right leg there is an old scar of about the size of a half dollar, which has pigmented edges and a parchment like center, evidently the remains of a tertiary syphilid. There is a distinct perforation of the soft palate, painless, and therefore unknown to the patient, probably syphilitic in origin. The grip in both hands is about equal and normal. Sensation is nowhere disturbed. The superficial reflexes are present everywhere. McCarthy's reflex is absent on the right side. The deep reflexes are normal in the upper extremities. Kneejerk is exaggerated on right side, and considerably reduced on the left side. The Achilles jerk is present bilaterally, but somewhat less marked on the left side. Gait is about normal. Co-ordination shows nothing abnormal. The eye-grounds are normal.

Large doses of mercurial inunctions and of potassium iodid up to 12 drams daily failed to produce any decided improvement during a course of treatment of two months' duration. The only change noted was a disappearance of the pain in the trigeminus region, which can not positively be attributed to the antisyphilitic treatment. The patient has now left the hospital and treatment had to be discontinued.

SUMMARY.

We find in this patient, with undoubted syphilitic antecedents and with the positive stigmata of syphilis, a right trigeminus neuralgia, a right-sided peripheral facial neuritis, neuritis of the left sciatic and left anterior crural nerves. These various nerve affections must be ascribed to syphilis, as we are unacquainted with any other single etiologic factor capable of producing such irregular nerve lesions.

100 State Street.

A METHOD OF TREATING FRACTURES OF THE SUPERIOR MAXILLA.*

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Although the body of the superior maxilla is not frequently broken, the surgeon occasionally finds fractures of the processes as the result of direct violence. The alveolar arch may be broken by a heavy fist blow, and the deformity which results is many times considerable and difficult to maintain in proper reduction. The ingenuity of the operator who treats these conditions in emergency practice is often taxed to the utmost. While it may be necessary for him at times to call a skilled dentist to his assistance, still it will be possible for him to treat nearly all these fractures single handed.

I have previously laid stress on the fact that the oral functions should be maintained in fractures of the jaws. To reduce properly and to immobilize the fragments, to retain the power of speech and the ability to take food, and to avoid the dangers of sepsis by providing for strict oral hygiene, are the conditions which the surgeon must meet.

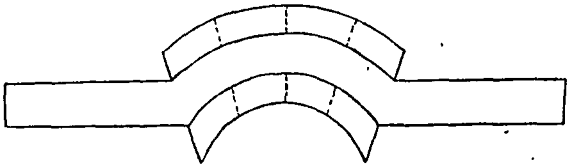

Fig. 1.—Plan of interdental splint.

It will hardly be essential to discuss previous methods which have been employed in fractures of the superior maxilla. While the literature on methods of retention in lower-jaw fractures is voluminous, that on fractures of the upper jaw is most meager and is limited to refined appliances which have been successfully employed by dentists, but which are outside the scope of the general surgeon.

The necessity for a simple, practical method of treatment was made manifest by the following case:

J. M, a laborer, aged 40, was assaulted by footpads. He received a heavy blow directly on the lips from the fist of one of his assailants. He was knocked down and remained unconscious for some time. He did not present himself at my service in the surgical dispensary of the University of California until two days after the injury. When first seen by Dr. Henry Horn and myself he was in a pitiable condition. His upper lip and gums were lacerated and greatly swollen. The upper two middle incisors and left lateral incisor were displaced downward about one centimeter, the alveolar arch being fractured. The teeth were loose in their sockets and the fragment of the alveolus bearing the three teeth could be moved up and down as if on a hinge. There was a large amount of clotted blood about the roots of these teeth.

In such fractures as this, Malgaine's dictum is to be remembered. "In all complicated fractures of the upper jaw," he says, "there is one principle which surgeons can not too much study, namely, that all fragments, however slightly adherent they may be, ought to be most carefully preserved, and they will be found to unite with wonderful ease." The advice is sound, for the blood supply of this region is very rich and the vitality of the bone is great. Although necrosis of small fragments sometimes takes place, it is the exception and not the rule. We, therefore, determined to save the much displaced teeth and the alveolar fragment.

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* Read before the San Francisco County Medical Society, 1905.

The patient was given an anesthetic, the fracture reduced and a temporary dressing applied. This consisted of an interdental portion, made of a thin, narrow piece of wood, maintained in position by dental compound molded over the incisor teeth and supported by the headpiece to be presently described. This held in position very well, but was replaced on the next day by the permanent apparatus.

This splint consists of a head piece, which is the suggestion of Dr. Horn, and an interdental plate of aluminum, the two parts being united by means of two strong rubber bands. The fracture is held reduced and an outline of the curve of the upper teeth obtained. This is best accomplished by making an impression in dental compound, softened by immersion in hot water. Sheet aluminum of No. 20 thickness is then taken and the pattern (Fig. 1) laid out on it. The curve corresponds with that of the incisor and canine teeth, and the width should be a little greater than the widest part exhibited by the impression. The two lateral arms are one centimeter in width and four centimeters in length and emerge from the body of the splint at a point about opposite the canine and bicuspid teeth, the object being that these arms shall not exert pressure on the corners of the mouth.

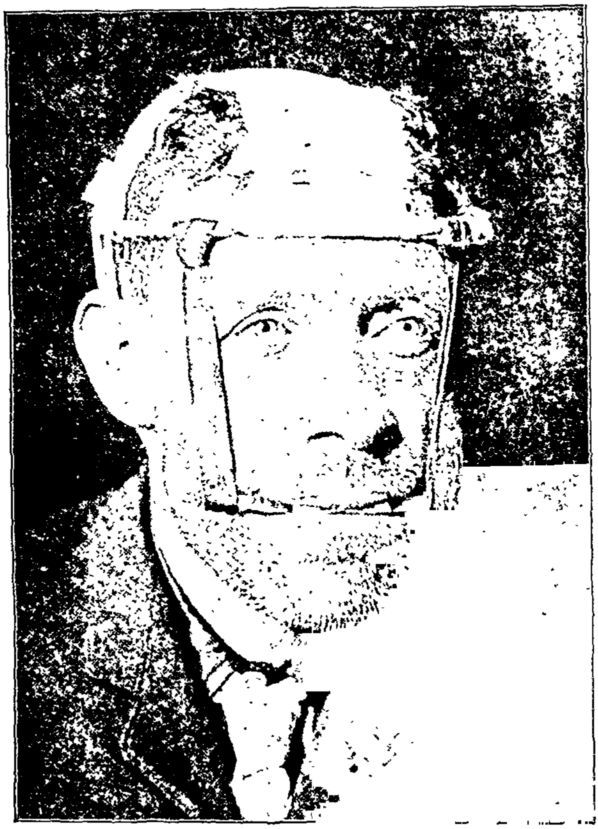

Figure 2.

The splint is then cut out by means of a pair of heavy shears. The lateral pieces are cut, as shown by the dotted lines, so that they may be turned up, thus forming the sides of a narrow curved gutter. Before this is done, however, it will be best to reinforce the apparatus by an extra piece, cut so as to conform with the base and arms of the splint. Over this extra piece the side pieces can be easily turned up by means of a pair of small pliers. The base can also be reinforced by a piece of heavy wire, bent so as to conform with the posterior curve of the splint. The tops and sides are then trimmed and the reinforced arms protected by wrapping with narrow adhesive plaster. The sides of the gutter should not extend so high as to interfere with the gums.

The head piece is made of heavy wire or whalebone, neatly shaped. It should be well padded and wound with adhesive plaster or a narrow roller bandage. The band is prevented from slipping downward by means of two strips of muslin bandage, crossing at right angles. Two heavy rubber bands are looped over the head band so that they run just to the outer sides of the eyes.

The interdental splint is placed in hot water, and the gutter filled with softened dental compound. It is then clapped on the teeth, pressed up firmly and maintained in position by slipping the rubber bands over the projecting arms. There is a tendency for the head piece to work forward, and this should be guarded against by fastening a bandage to the band above the occiput, then carrying the ends down and tying them securely well under the chin. The elastic pressure is most satisfactory. The splint does not loosen and has given us no trouble. The interdental gutter may be carried back beyond the projecting arms, so as to embrace all the upper teeth if desired.

The progress of this case was excellent. The mouth was kept clean by an antiseptic solution and the splint was frequently removed and cleaned by boiling. Union was found to be quite firm in twenty days and the patient was discharged five weeks after beginning treatment.

751 Sutter Street.

AN AMERICAN MEDICAL ASSURANCE.

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There are three chief purposes subserved by the American Medical Association—the advancement of science, the promotion of sociability, and the strengthening of the material interests of the members of the profession. The first purpose is accomplished with much success by the activities of the Association and its subordinate societies. The second purpose is inevitably aided by the meetings that are so frequently held and so well attended. But the third purpose, so far as collective action is considered, is generally neglected except by a very few local associations.

It is self-evident that any plan that improves the financial welfare of physicians and that has the aid and sanction of the American Medical Association must conduce to the creation of strong fraternal relations among the members and thus consolidate the Association itself. The feeling of brotherhood would be quickened by the knowledge that the misfortunes of our fellow-members are not matters of indifference to us, and that we, as an Association, are willing and able to furnish means of alleviating some of the unhappy experiences that may come to a worthy physician in the course of his life.

The foregoing are some of the reasons for suggesting that the American Medical Association should sanction the institution of a life-assurance company of strictly first-class character and operating all over the United States and Canada. This company, in its articles of incorporation, should devote 4 per cent. of its surplus profits to form a medical benevolent fund for the benefit of deserving members of the Association who are unfortunate. The British Medical Association has a benevolent fund that is often of much service to members, and which acts as a bond to hold the units of the association in fraternity. This fund should be placed in the direction of three trustees, elected for six years by the Association, which should also fill all accidental vacancies in the board of trustees. There should be an election of one trustee every two years at the general session. The local societies may voluntarily aid distressed members by helping to keep up insurance, or by providing small annuities, etc., and the trustees of the fund may contribute something in aid of the local efforts. Members who are provident enough to insure their lives would naturally have the preference in receiving aid from this benevolent fund.

In starting the assurance company certain principles should be kept prominently in view. It should be a first-class company in every respect, and should be based on the most approved statistics and conducted according to the best methods. The medical profession possesses much valuable experience in relation to life insurance, and it could be utilized here. The company must have all the elements that will make it a certain success, and it should be formed on conservative lines so as to secure the patronage of the profession generally and the public at large. The company suggested, through the support of medical practitioners in every locality, would be enabled to operate in an economical manner, saving the enormous cost of advertising, fees to agents, expensive building and lavish display; the extra profits resulting from these savings should be applied for the benefit of policy holders, either by reducing the premiums or by increasing their dividends. The very best expert assistance should be secured, both in drawing up the constitution of the company and in managing it. It should be a mutual company, in the sense that policy holders should share in its profits.

The philanthropic feature must not dominate the company, which, to succeed, must be a business conducted on purely business principles. It can be chartered in any state, but should prefer a state that has strict insurance laws. Every possible security should be given save increasing premiums in proportion to the advancing age of policy holders who have long been holding insurance. On the contrary, there should be a plan to make the payments less onerous to those who have carried a policy for many years. There should be as favorable options as are offered by any company, and endowments and annuities should be given. There should be no freezing out of policy holders nor any calculation to make increased profits by dropped policies. Policies should be non-forfeitable after the first year. The company should offer the best and lowest rates that are compatible with a perfect assurance. Young members of the profession and medical students should be encouraged to take out policies, and every member of the profession should constitute himself an agent of the company to assist in securing for it a large and profitable business.

The plan of organization is for three or more members of the Association to secure comparisons of the constitutions of some of the best companies, and with expert assistance, to draw up the constitution of this company. Then they should secure a charter, paying the expenses by an assessment of themselves. They should take power to issue stock, the amount at first not too large, with power to increase it. Four per cent. of the stock should be devoted to the benevolent fund; the majority of the stock should be held by members of the American Medical Association and the stockholders to pay 25 cents on the dollar to form a fund for beginning operations. For the first year 70 per cent. should be allowed as commission on new business, to be turned into the expense fund. After the first year, agents should be allowed a reasonable commission, and physicians may be agents. Competition with other companies should be avoided, but an energetic canvass by the agents is desirable. There are new life-assurance companies being organized every day, and the one now proposed has as fair a field as any, and it may easily command all the capital that is needed to make it a going concern and one that promotes the common interests of the public and the profession.

THE ETHICS OF PHARMACY.*

H. W. WILEY, M.D.

WASHINGTON, D. C.

It is rather a peculiar feature of life that some of the best advice we get is from those who know the least of what we do. The charming sarcasm of Pinafore in the representation of Sir Joseph Porter, K.C.G., at the head of the British Admiralty is only excused by the truthfulness of the application. Many of our great secretaries of war and of the navy have been ignorant of the principles of land and sea warfare. Some of our great presidents have known nothing of statecraft on their accession to office; great lawyers often do not know how to draw a will, and great physicians have been among the most distinguished legislators of the world. It is perhaps, therefore, not entirely amiss to have an address on the ethics of pharmacy from one who is not in the profession. A man who stands by at a game of chess sees the brilliant move which would gain the victory, which the master overlooks, and from the external viewpoint the non-professional may have a clearer idea of relations than one on the inside.

The profession of pharmacy has become more and more a truly scientific vocation. In nearly all the states, those who enter on this profession are required to secure a license, just as in different communities the physician must qualify before a competent board. Schools of pharmacy have been established in almost every state and territory where young men may have the opportunity to prepare themselves for the important and responsible duties connected with their business.

In speaking of the ethics of pharmacy, therefore, I shall regard my subject largely in the scientific rather than in the commercial aspect. I realize as clearly as any one can the fact that people do not enter professional life as a rule, from mere sentiment or mere love. Most of those, and perhaps fortunately, who engage in professional life have no fixed income and must depend on their professional services for their living. I, therefore, am not one who looks with contempt on the commercial side of the profession of pharmacy. Its existence depends primarily on its bread-winning opportunities and when discussing the ethics of pharmacy the fact that it is a money-making profession, or at least should be, ought not to be forgotten.

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* Address delivered at the graduating exercises of the National College of Pharmacy, 1905.

I am not one of those who believe that endowed science is always the best kind, but in all scientific pursuits, the spur and the whip, and the necessity of putting a little money in the purse, are useful not only for the purpose for which they are intended but also from the purely scientific aspect of the case. It is, therefore, not at all surprising to find in such professions that the best code of ethics, when followed out, is likely to lead to the greatest pecuniary gains. I shall not go to the dictionary either Greek or English, to quote you the definitions of ethics. For our purpose, it is sufficient to know that ethics include simply the proper conduct of affairs. Granting this as the basic principle of the discussion of ethics in the logical development of this subject, it is necessary to see the definite classes of relations which the pharmacist bears to the community. A simple analysis of these conditions shows that there are three important and separate interests with which the pharmacist holds intimate relations:

First. Those of his own profession;

Second. Those of the great medical fraternity, and

Third. Those of the public.

In order that this address may possess some unity of structure, I will briefly discuss the ethics of pharmacy in these three particulars. I wish to say, however at the very outset, that I have nothing at all to offer in relation to that part of the business of the pharmacist which relates to dealing in articles not remedial in their nature. I well understand the fact that it is very probable the belief in the potency of drugs is greater than their merits warrant. The very moment any disturbance of the physical functions occurs, the tendency is to "take" something, usually without much discrimination as to what it may be. There has undoubtedly developed in this country and in other countries in the last few years a distinct drug habit which is certainly reprehensible, and ought to be corrected, but unless we make light of the results of experience and of scientific inquiry, we must admit the potency and usefulness of drugs. In the last few years, the whole science of physiology, and with it pathology, has received a new light from the researches made by the chemical profession. We have seen gradually crumble and decay the old theory of the mysteries of vital force. We have seen formed and strengthened the idea that the growth of a living body, its functional activity, its diseases and decay are due to certain reactions which go on within the body, which are purely chemical *in character*. The principles of physical chemistry explain the last of the mysteries of so-called vital activity. Thus, having established the doctrine that these changes in the body are strictly chemical in their nature, we have laid broad and deep the foundation which justifies the use of drugs.

Perhaps one simple illustration of this principle may be of use, namely, the injection of saline materials in certain disturbed and weak actions of the heart for the purpose of stimulating this organ and with it the general cellular tissues of the body. The good effects of these drugs are based on indubitable chemical principles which it is scarcely in place to outline here. I will admit without question that up to the present time and even at the present time the use of drugs is largely empirical. It is not always possible for the physician to foretell nor even to foresee the effect of some of the drugs he administers, but there are large classes of remedies of which this is not true; remedies which have a specific physical and chemical action, which is well known, and the variations from which are determined by the idiosyncrasy of the patient himself. This class of remedies forms the bulwark on which rest the great professions of pharmacy and therapeutics. In general it seems to me, therefore, that the relation of pharmacists to the profession itself may be defined in a few words, namely, that the pharmacist should only keep and dispense those remedies whose standards are fixed by the acknowledged authorities of his profession and which are of the purity and strength required. In this case, the pharmacist depends largely on the manufacturer, and it seems to me the duty of the profession to itself as a profession to patronize only those manufacturers whose wares are of the quality and strength specified. In other words, the ethics of pharmacy require that the pharmacist should keep in stock and sell only preparations which are pure, which are true to name, which are unadulterated and which are of the strength and quality required.

This leads us to the discussion, briefly, of one of the great temptations to which the pharmacist is exposed very frequently in this respect. It may be represented to him that a product which is not that which is required in a given instance is described as being of the same quality and usefulness and as serving the same purpose and, therefore, as being a wholly proper substitute therefore. Since it can be offered at a very much reduced price and sold at the same price as the genuine article, if the pharmacist is convinced of the truth of the representations made to him, he may fall a victim to this temptation. The very moment that this happens he commits a moral crime which, although in itself perhaps not threatening seriously in every case the health or welfare of the community, opens the door to a series of offences of the same kind, which may end in the total degradation of the character of the wares which he keeps.

This leads us to the second factor in the relations of the pharmacist to his professional brethren which is of a very important character, namely, that for the sake of gaining trade it is highly reprehensible for the pharmacist so to reduce the price of an article as to temporarily make its sale unprofitable with the hope of establishing a trade therein and then raising the price to the profitable basis. Such practices as these are simply introducing into pharmacy the principles of the great trusts, which, by reason of the funds at their command are able at will to depress the price of a commodity below the point of profit and thus to crush and eradicate the weaker competitor. The very moment that the pharmacist depresses his prices below the point of profit he enters on a career which threatens the existence of his profession. Better far to have no trade at all than trade of this kind. Naturally, there is another extreme in this matter which must also be avoided. That is a union of pharmacists or an agreement between them to raise the prices to an unwarranted extent beyond the point of reasonable profit. Such a practice is just as reprehensible and just as dangerous to the profession as the one just mentioned. I believe in united effort, in organization, whether it be of labor or trade or manufacture, but the object of such organization should always be a legitimate one and never for the purpose of securing in any way a pecuniary advantage not commensurate with the value of the service offered. Labor should be paid living wages and the laborer should do good service. The trade should make legitimate profits and its offerings to the public should be pure and wholesome. Manufacturers should be able to declare reasonable dividends, by studying the conditions of the market and not by destructive organization eliminating the weaker competitors, and their products should never fall below the standard.

I have mentioned only, as you have noticed, the chief points of ethics of pharmacy in their relations to the profession—purity of products, legitimate profits, freedom from debasement and substitution.

The relations of the pharmacist to the physician is perhaps the most important of all from the viewpoint of ethics. One of the most important of these relations is a point already mentioned, namely, to have in his possession only pure and wholesome products, so that when the physician sends his prescription to the druggist written, let us hope, in an intelligent way and by an intelligent man, he may have compounded the article asked for. But the pharmacist should remember that the physician has rights in the community as well as the pharmacist. He has trained himself to be a guardian, as it were, of the public health. The unselfish physician is more inclined to prophylaxis than to therapy. His object is more to conserve the public health than it is to cure the sick. Usually, however, the public does not feel like calling on the physician until it is ill. It pays very little attention to his appeals for sanitary regulations, but is quick to employ him when sickness occurs. If we admit that the physician thoroughly qualifies himself for his profession, that he has the qualifications which every true physician should have, with that high regard for the ethics of his profession which is the salvation of his work, he has rights which, as I have said, the pharmacist must also respect. One of these rights is the one by which he is charged with the care of those who are ill in the community. In this country, however, there has grown up a system of the practice of medicines which is not only reprehensible but thoroughly dangerous. It consists in the concoction of preparations many of which are valuable remedies, which are sold under fanciful names and with no indication of their composition, by means of advertisements in the public journals, directly to the patient himself. Unfortunately the pharmacist is made the instrument by means of which these unethical remedies are supplied. For the sake of a small profit, usually very small which can be made on these preparations, he consents to act as go-between and supplies to the community remedies which should be prescribed by the physician and compounded by the pharmacist himself. In this way, the pharmacist deprives the physician of legitimate practice and, as I believe, with far less profit to himself and benefit to the community than if he absolutely refused to degrade his profession by dealing in articles of this kind. To such an extent has this practice grown that even the physician is almost compelled to prescribe by name many of these articles, the composition of which he himself does not fully understand. Of course I do not include in this category as reprehensible those which are truly ethical that is, those which bear on their label their composition and which are not advertised by the public press or otherwise directly to the consumer. I do not consider that there is a greater evil to-day in our land affecting the profession of pharmacy than those so-called proprietary remedies. I do not deny the virtue or efficacy of many of these remedies, I only deprecate the way in which they are employed. It is with a feeling of humiliation and shame that I look into the reputable magazines and newspapers of this country day by day and see portrayed in picture and headline the virtues of concoctions the ingredients of which are never mentioned. Why, may I ask, should the pharmacist by law be compelled to label a bottle containing opium with a distinctive mark with the word "Poison" and with the skull and cross bones when he opens it to fill a prescription written by the physician, when he is permitted to sell the same substances without restraint or restriction and without mark or name to any citizen who enters his store and asks for a certain preparation under a certain name? There is no justice in such a business. It is unethical in the extreme. It is not treating the medical profession as it should be treated. It is helping to deceive and to defraud the public.

I have sometimes heard objection made to the filling of prescriptions because of the enormous profit which the pharmacist is said to make thereon. Now it seems to me that such an objection is wholly untenable. In making up the prescription, the pharmacist exercises skill which has come to him by long study and experience, which has cost him perhaps many thousands of dollars. Why should he be asked to charge for the prescription only a fair profit on the ingredients which it contains? There is no reason. He is entitled to a just profit and to pay for his skill and experience. The great artist who places on canvas a picture may just as well be required to sell it, for the cost of the paint, of the canvas, of the frame and of the time which he devoted to it. It seems to me that the chief legitimate field for the pharmacist is the prescription field and just as soon as the use of patented and proprietary remedies is eliminated from this land, the pharmacists will find that the total profit which was derived from them was very small, as compared with the sale of ethical remedies which will take their place.

To sum up briefly, the ethics of pharmacy in its relation to the medical profession consists in the training of skilled pharmacists who shall be able to compound in the most artistic way and with the best results to the patient the prescription which the physician may present.

The relations of the pharmacist to the public is the third subject on our list. This has been largely outlined in the previous paragraphs, but there are some special features of the relations to the public to which I would like to call attention.

In the first place, the pharmacist should be protected in his relations to the public as against other branches of trade in the dealing in articles not connected with remedies or prescriptions, but which are by general consent permitted to the drug store. He should be protected in his relations to the people against the dealing of grocers and others in articles which are peculiar to his own business. The mere dispensing of medicines on the physician's order might not be a sufficient business to warrant the highest degree of experience and talent in entering the profession of pharmacy. There are, however, dozens and perhaps hundreds of articles in common use which are commonly found in the drug stores of our country. I may say that among them is one to which I am not particularly devoted, namely, the soda water fountain but it is one which receives universal patronage. I do not, I hope, convey the impression that the drinking of carbonated water mixed with a syrup and flavored with a fruit, is objectionable. What I do object to, however, is serving to the community those articles which are not of the proper quality. When the pharmacist dispenses artificial flavors and artificial colors to the public under the guise of the genuine article, he is certainly overstepping the rules of ethics regulating his relations to the consumer. Of course, there are objections to the ice cold character of the beverage, especially in the heated months when large quantities of such ice cold drink are consumed, but since I know of no way to raise the temperature of the beverage without disappointing the consumer and injuring the business, I shall content myself by urging on the pharmaceutical profession the necessity of inducing their customers to drink slowly and deliberately, thus adding to the pleasure of the consumer and detracting nothing from the profit of the dispenser. It might be well if above each soda water fountain should be hung a placard, so that all should see—

"Full many a man, both young and old,
Has gone to his sarcophagus
By pouring water icy cold,
Adown his hot esophagus."

Then again, the pharmacist is in many cases an emergency physician. In his studies he must learn the principles of therapeutics and to a certain extent their practice. He must be appealed to from time to time in cases of emergency and accident for immediate help, and, therefore, in his relations to the public he must be so much of a physician as to extend at least the first aid in the way of drugs and remedies and other help.

The pharmacist, finally in his relations to the public, must not allow himself to keep a saloon. There are many of the so-called proprietary remedies, to which I have alluded, in which the principal ingredient is alcohol. God only knows the source of this alcohol, but at least it is a stimulant and an intoxicant. No pharmacist who regards rightly the principles of ethics toward the consumer will sell or keep on sale such beverages. If he does, he should at least obey the laws and take out a license therefor. If, by the rules of his profession or by the laws of the country the pharmacist is not allowed to sell the genuine alcoholic beverages, such as beer, wine, whiskey and brandy, he certainly should not be allowed to deal in any kind of misbranded and perhaps injurious compounds containing practically the same active principles under fanciful, misleading and deceptive names.

Finally, I would say that both the pharmacist and the physician should cultivate the most friendly relations toward each other in their professions. Sometimes each must exercise the profession of the other. Thus the physician, especially in the country, often must exercise the functions of the peripatetic pharmacist. So the pharmacist in the city is often called on to exercise the functions of the resident physician. It is a pleasing fact to know that the great national associations of pharmacy and medicine are drawing closer and closer together and there is no reason why they should not amalgamate into a single body, having for its object the strengthening of the great principles on which the two professions are based and the good of the whole community which they are called on to serve. To this end, I should like to see more and more entering into the schools of pharmacy the elementary principles of medicine, and I should like to see introduced more and more into the medical schools the true principles of pharmacy. There is one science which serves perhaps more than others to bind these two professions together, that is the science of chemistry. The physician first of all must be a chemist and must understand the intricate and wonderful chemical reactions which are taking place constantly in the body, and which, when disturbed, can only be brought back to normal conditions by the supply of proper chemical reagents. The pharmacist must understand first of all the principles of chemical reactions. His profession deals in the source of compounds, not merely of vegetable and animal origin, but covering the whole range of chemical products. Chemistry is the bond, then, which unites these two great professions and I am glad to know that in this school you have had instruction in chemistry which must be of the best. I have known your professor for years and there is no one who stands higher in the profession of chemistry, not only in this but in other countries, than Dr. Hillebrand.

You have now completed the course prescribed for the beginning of your professional career. You expect in this profession to earn a livelihood. To stand well in the community remember that first of all it is the duty of each citizen to be a patriot, to be devoted to his country and its interests, and to this end he can best serve his country by best serving his profession by standing immovably on the principles of ethics which I have briefly set forth. You should resolve that you will do what is right by your profession, by the physician and by the public; that you will never deceive a patron; that you will never take unfair advantage of a professional brother; that you will never put into a physician's prescription anything that he does not ask for; that you will never sell clandestinely to a customer an article which you would not be allowed to sell by its own name. By practicing honesty and industry you will succeed; you will become successful pharmacists; you will become good citizens.

ACUTE EPIDEMIC DYSENTERY.*

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The history of the study of the dysentery bacillus began with the discovery by Shiga, in 1897, of an organism whose presence he was able to demonstrate in every one of a large number of cases of acute dysentery. This bacillus differed from the colon bacillus especially in that it did not ferment glucose with the formation of visible quantities of gas, that it did not produce indol, and was motile only when freshly isolated from the intestine. It reacted with the serum of those sick with dysentery and usually for months after convalescence, and did not react in the trials made with the serum of those who had not had dysentery. There were more than 89,000 cases of dysentery in Japan in 1897, and Shiga has demonstrated that in the majority of these cases the bacillus described by him is the exciting factor.

Following Shiga's investigations, Flexner examined bacteriologically a number of cases of Philippine dysentery and found the Shiga bacillus in all of the suitable cases. Strong and Musgrave also found the bacilli in many acute and in some subacute cases in the Philippines. Of 111 fatal cases among soldiers, they class 21 as acute specific (bacillary) dysentery, 11 as subacute specific dysentery, and 79 as amebic dysentery. In the same year (1899), Kruse found the same bacilli in Germany and Spronck in Holland.

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* Read before the Lancaster County Medical Society, 1905, and before the Omaha and Douglas County Medical Society, 1905.

The investigations made during 1901 were principally carried on by E. B. Vedder and C. W. Duval, working under the direction of Flexner. They found similar bacilli present in the stools in 5 cases in Philadelphia, in 3 cases in Lancaster County Almshouse, and in 14 cases examined in an epidemic at Springside House, New Haven, Conn., where 50 out of 350 inmates were attacked. In the summer of 1902 (under Flexner's direction), Duval and Bassett found similar bacilli in a number of cases of dysentery in a children's hospital in Baltimore. Some of these were cases of dysentery and some were simply cases of summer diarrhea. Park and Dunham and Wollstein succeeded in isolating the bacillus from a few cases in Seal Harbor, Maine, Tuckahoe, N. Y., and New York City. Kruse found bacilli, which resembled the Shiga bacillus, in an epidemic in an insane asylum, but which failed to agglutinate in the blood of animals infected with Shiga bacilli, nor did the blood of these patients agglutinate the Shiga bacillus.

The cultural characteristics of the dysentery bacillus were given quite fully by Shiga in 1898, and are in many respects similar to those of the typhoid bacillus. Vedder and Duval gave some details of methods for obtaining the bacilli from the feces. The bacilli described by Shiga are small, thick rods with rounded ends similar in appearance to the colon bacilli. In cultures they are usually found singly and in pairs. When discovered they may be somewhat motile, but if so the motility is lost after prolonged cultivation on artificial media. Flagella can be demonstrated with difficulty. The bacilli are easily stained and are negative to Gram. They grow in ordinary nutrient media, better in the presence of oxygen. Gelatin is not liquefied. The optimum temperature is about 37 C., but they develop slowly at temperatures below 20 C.

Duval and Bassett recommend collecting the stools from infants on a sterile gauze pad placed, in the usual manner, over the buttocks after cleansing the parts with bichlorid, the pad being retained by a napkin. The stool should be examined immediately, if possible. Stools containing blood and mucus are especially favorable for isolating the bacillus of dysentery. Enough material, usually from three to six loopfuls, is taken from the blood or mucus in the stool to render cloudy about 10 c.c. of sterile bouillon. The dilutions are made in the usual way, after the settling of the coarser particles, by carrying two, four, six or eight loopfuls of the suspension, depending on its opacity, into a second bouillon tube and from this into melted agar tubes from which plates are formed. The most successful plates present from 25 to 200 superficial colonies. The most favorable material is obtained at autopsy, after opening the lower intestine with sterile instruments, by scraping the mucous membrane with a sterile knife; the scrapings being introduced into a bouillon and plated as above. At the end of twenty-four hours' incubation, the first crop of colonies on the plates should be marked off with a blue wax pencil, as described by Vedder and Duval, and the plates returned to the incubator for another twenty-four hours. The second crop of colonies is then examined and those presenting the character of *B. dysenteriæ* are transplanted to glucose-agar. *B. dysenteriæ* is to be sought among the non-gas forming varieties. Duval and Bassett describe the agar plate colonies at the end of twenty-four hours as being delicate and semitranslucent and bluish-white in color; at forty-eight hours, they are more opaque, whiter, of dull reflection and not elevated perceptibly above the medium. Under low magnification, a triple zone is evident. Colonies older than forty-eight hours can not be regarded as readily distinguishable from those of *B. coli.* Five types of the organism have been isolated: (1) The Shiga type, which attacks glucose and no other sugar; (2) the Flexner-Harris type, which attacks glucose, mannite and dextrine, but not lactose; (3) "Bacillus Y" of Hiss and Russell, which attacks glucose and mannite; (4) Duval and Shorer "Bacillus A," which attacks glucose, mannite, and lactose; (5) Duval and Shorer "Bacillus B," which attacks glucose, mannite, dextrine, and lactose. The Flexner-Harris type has been most frequently encountered in this country.

Bacteriologic reports on the investigations of 1903 were made by Duval and Shorer, Wollstein and Dewey, Gay and Stanton, Cordes, Waite, Kendall, Lewis, and Bassett. A pathologic report was made by John Howland, a report on blood reactions by Charles K. Winne, and clinical reports by La Fetra and Howland, Knox, Cordes, Amberg, Freeman, Warfield, Hastings, Reed.

Martha Wollstein also reported on the "Dysentery Bacillus in Relation to the Normal Intestines in Infants." The investigations were carried on in the cities of New York, Philadelphia, Boston and Baltimore under a grant from the Rockefeller Institute. In all, 412 cases were studied, and of these, 279, or 63.2 per cent., yielded the dysentery bacillus. These represent nine separate and distinct groups of cases studied by different bacteriologists, and one group gave as high a percentage as 94 per cent., while in another only 25 per cent. of the cases yielded the organism. This, however, was in the tenement district in New York, where the stools had to be transported to a considerable distance before being examined and where delay made the isolation more difficult. The same investigators working in Bellevue Hospital found the organism in 65 per cent. of the cases examined. The character of the stools was reported in 397 cases, and of these 120 were composed of blood and mucus, 36 of mucus, 226 of mucus and feces, and 15 of feces alone. The bacillus was recovered from 265 of these stools, from 88 which contained blood and mucus, from 25 which contained mucus alone, from 148 containing mucus and feces, and from 4 containing apparently nothing but feces. Therefore, only 4 successful cases contained neither blood nor mucus. Visible blood was contained in about one-third of the successful specimens. The most successful specimens, then, were those containing mucus and feces. Shiga, Flexner, Kruse, Duval and Bassett and Wollstein have in turn sought the organism in the discharges of healthy adults or children, but unsuccessfully. In 1903, Duval isolated a very few dysentery bacilli from the stools of two healthy milk-fed children to whom mild cathartics had been administered.

Flexner mentions the fact that while infections with the dysentery bacillus in adults often extend with epidemic severity, the cases of infection in children seem to be examples of individual inoculation, although occasional examples of contagion from child to child and sporadic infection among adults does occur. It can only be conjectured whether the bacillus gains access to the intestinal tract with milk, water or other substances. It may possibly exist as a saprophyte in the intestinal contents and become parasitic only after repeated insults to the mucous membrane. Flexner considers it possible that two modes of infection may occur, autoinfection and "extra-infection." Most of the infants whose stools were examined and who were not in hospitals and institutions had been given unboiled water, but the organism has not been isolated from water.

Shiga tested the agglutination reaction with the blood serum of something more than 100 persons who either had dysentery or were convalescing from it, and found that in most cases, after a week or ten days, dilutions of 1 part of serum to 30 of water gave agglutination, and often 1 part to 50 or more. The reaction was absent with persons who had not had dysentery, but with convalescents the reaction remained over a varied length of time, in one case as long as eight months. Shiga was disposed to regard the occurrence of the agglutination reaction in even those low dilutions as of great diagnostic significance. In summing up his remarks on this subject, he said: "*B. dysenteriæ* is agglutinated only by the blood of dysenteric patients; never by the blood of those sick with other diseases or of healthy individuals."

These conclusions were apparently confirmed by findings of Kruse, Flexner, Strong and others. Lieutenant Strong tested his Manila bacillus with serum from 100 individuals, of whom 12 were well and the others suffering from various disorders. The result showed a partial reaction in the case of one healthy individual and a positive reaction in one surgical case, a 1 to 10 dilution being employed and observation made at the end of thirty minutes.

It came to Dr. Park's notice that in some instances the bacillus did react with the blood of non-infected persons in fairly high dilutions, and he suggested that I investigate this phase of the subject. The bacillus was tested with the blood serum of 114 patients in Bellevue Hospital and the dispensary of the University and Bellevue Hospital Medical College. The bacilli employed were from Shiga's Japan (alkali type) and Flexner's Manila (acid type) cultures. Dilutions of 1 to 10, 1 to 20, 1 to 50 and 1 to 100 were employed, and the average time of observation was from two and one-half to three hours. An attempt was made not only to signify the presence of a reaction, but to indicate the degree of completeness of the clumping which occurred. It was found that in all cases of infants under one year, there was a complete absence of reaction, except in one case of a 10-months-old child where very slight clumping occurred in a 1 to 10 dilution. In all cases over one year, clumping occurred in some dilution. The conclusions[1] were to the effect that the serum of non-dysenteric adult persons does agglutinate the bacilli frequently in a 1 to 20 and some in a higher dilution; that the agglutinating power is wanting in the blood of non-dysenteric young infants (under one year); that the Shiga type clumps a little more readily than the Flexner type, and that a decided and prompt reaction in dilutions of 1 to 20 or higher in infants under one year and in 1 to 50 or higher in older persons who have not recently suffered from intestinal disease is probably pathognomonic of acute epidemic dysentery.

Among the conclusions reached by Dr. Flexner, after surveying the results of the investigations of 1902 and 1903 in this country, are the following:

1. The *B. dysenteriæ* can be isolated from the intestinal discharges, and the intestinal mucosa of a large percentage of children suffering from the diarrheal diseases prevailing along the Atlantic seaboard of the United States during the summer months.

2. The bacillus is to be sought, especially in the mucus thrown off by the intestinal mucosa and in the substance of the mucous membrane itself.

3. Blood admixture makes the isolation easier, as it generally indicates severe infections.

4. The number of colonies recoverable has some relation to the severity of the lesions and the symptoms.

5. The number of colonies obtainable is usually far below the number of colonies of the ordinary intestinal bacteria which develop on the plates.

6. The type most often found is the so-called Flexner-Harris organism.

7. Types of *B. dysenteriæ* of less well-established properties have also been encountered.

8. The blood of the children suffering from diarrheal disease agglutinates at times the bacillus of dysentery in high dilutions; but this agglutination by the blood does not proceed hand in hand with the occurrence of the bacillus in the intestine. The agglutination reaction is not to be treated as an index of the presence of, or infection with, *B. dysenteriæ*.

9. The close association of *B. dysenteriæ* with the intestinal mucosa, the increased numbers of the organism found under definite pathologic conditions, the established pathogenic action of the bacillus for human beings, and the specific blood changes met with in many of the cases of diarrheal disease, all speak for a relationship of cause and effect between the bacillus of dysentery and the lesions of the intestine.

10. It is probable that *B. dysenteriæ* appears, at times, among the saprophytic bacteria of the contents of the intestine.

11. The contagiousness of bacillary dysentery among adults and the rarer instances of diarrheal contagion among children prove the necessity of recognizing an "extra-infectious" origin of the disease.

12. The possible action of any of the many bacteria of the discharges, including the streptococcus, is not excluded by the special findings of the investigation.

13. The central fact brought out by the collective investigation is the frequent occurrence in the diarrheal diseases of children of a specific micro-organism, which hitherto has been held to be of special pathogenic action in human beings, and to be the cause of that form of dysentery among adults and children which is characterized by necrotic and pseudo-membranous lesions of the intestine and marked infectiousness.

14. The lesions of the intestines observed in the children who succumbed to the diarrheal diseases treated of in the reports were very varied in character, but there were rarely found among them the particular kinds of pathologic changes which characterize pseudo-membranous entero-colitis.

Dr. Holt, in reviewing the results from a clinical standpoint, mentions the following points: 1. Infection with the *B. dysenteriæ* occurs under quite a wide variety of conditions. It is seen in breast-fed infants as well as in those artificially fed. 2. It occurs as (*a*) an acute primary infection in children previously well; (*b*) as a subacute infection without previous acute symptoms; (*c*) coincident with or following other acute diseases, such as measles, pneumonia, etc.; (*d*) it is often seen as a terminal infection in children suffering from extreme malnutrition or marasmus. 3. It occurs as a mild intestinal disorder with few symptoms, and these hardly more marked than those belonging to intestinal indigestion; also with local symptoms of considerable severity, yet with very little fever or constitutional depression, and finally, in its most severe form, with both local and constitutional symptoms of great severity. 4. It is not a disease of any one locality, having been seen with great and about equal frequency in all the large cities in which investigations were carried on, the only variation in type being that in the warmer cities the proportion of severe acute cases was rather larger. Nor is the disease one of tenements and hospitals, a number of the cases observed being in children living in the best surroundings, even in the country. In its prevalence, it appears to be as widespread as are summer diarrheal diseases.

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[1] Medical News, Dec. 5, 1903.

The clinical reports include observations on 237 cases, and of these 26 children were previously breast-fed. Most of the breast-fed infants exhibited a milder type of the disease than the others. Of the cases studied, 91 were classed as examples of severe infection. These were characterized by much mucus and generally blood in the stools, usually fever, but not always high, and by marked general prostration. There were 81 examples of moderately severe infection, in which there was much mucus, and often blood in the stools, some fever, but not much constitutional depression. There were 63 examples of mild infection, in which the constitutional symptoms were very few; blood was seldom present; there was little or no fever; but the stools almost always contained mucus. There was only one case which at all approached the type of cholera infantum. Seventy-three of the 237 cases were fatal. In the matter of diet, there is some difference of opinion as to the desirability of withholding milk in cases of moderate severity. The intelligent use of milk seemed to give much better results than the substitutes usually employed. In some cases the infection is slight, while the digestive disturbance is severe. On the theory that spreading takes place through the discharges, the Babies' Hospital made a rule that the nurse in charge of the children's napkins should not at the same time have anything to do with the food or feeding.

In all, there were 83 cases in which the antidysenteric serum was employed, and 38 of these terminated fatally. On the whole, the results were disappointing. No unfavorable symptoms followed its use in any case. In only 12 cases did a noteworthy improvement appear to follow its administration. Dr. Holt does not consider that it has been given a sufficient trial. In cases of moderate severity, a dose of 10 c.c. a day is recommended, and in severe cases three times that amount. Of 372 cases studied during the past summer, 73 proved fatal. The antidysenteric serum used was made from horses by the injection first of dead cultures and later of living cultures of the dysentery bacillus. The results of serum treatment were again disappointing, but I have seen no extended account of the investigation. Dr. Louise Tayler-Jones isolated the bacillus from 6 out of 20 cases of dysentery in Washington, D. C., and described 6 other cases as being clinically suggestive of the presence of the bacillus. This proves Washington to be within the zone of distribution.

To epitomize Dr. Knox's experience with serum treatment at the Thomas Wilson Sanitarium, he found it to be of benefit in 5 cases, of doubtful benefit in 5, and inert in 10 of the 20 cases in which it was employed. It seemed to be of more benefit in severe toxic cases than in those of inflammatory type. Most of the cases benefited were those in which comparatively small amounts were given early in the disease. He emphasizes the necessity of promptness in treatment, and goes on to say that if the food can be stopped and the alimentary tract emptied within a few hours after the onset of symptoms, most infections can be aborted. In all his acute cases, milk was stopped for varying periods, and boiled water, with or without egg albumin, dextrinized cereal waters or broths, and later whey was substituted. Gastric lavage was resorted to occasionally and colon irrigation in nearly every case. Calomel or castor oil was given on admission, and large doses of bismuth subnitrate were employed as an intestinal astringent. Opium was sparingly employed. Whiskey or brandy, strychnia, digitalin and atropin were found useful as stimulants. Of 14 patients who had been previously fed on condensed milk, 8, or 50 per cent., died at the sanitarium in spite of treatment, while of the 26 cases given at their houses some form of cow's milk, but 8, or 29 per cent., died, 7 were improved and 10 were permanently cured. Of 17 infants under 6 months in Dr. Knox's series, 10 were bettered and 1 improved, while 6 died, a mortality of 34 per cent.; but of 18 infants between 6 and 12 months of age, only 8 were better, none improved, and 10 died, a death rate of 55 per cent. This difference he attributes to the fact that the untoward effects of improper artificial feeding are most in evidence in cases with weakened constitutions, rickets and the like, during the second half year of an infant's life. Of the 18 children older than one year, but 1, aged 13 months, died.

THE COMMERCE OF SURGERY.*

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CHICAGO.

"It is further to be observed that just as the self-assertion necessary to the maintenance of society against the state of nature will destroy that society if it is allowed free operation within, so the self-restraint, the essence of the ethical process, which is no less an essential condition of the existence of every polity may, by excess, become ruinous to it.

"In a large proportion of cases. crime and pauperism have nothing to do with heredity; but are the consequence partly of circumstances and partly of the possession of qualities which under different conditions of life might have excited esteem and even admiration. The benevolence and open-handed generosity which adorn a rich man may make a pauper of a poor one; the energy and courage to which the successful soldier owes his rise, the cool and daring subtlety to which the great financier owes his fortune may very easily under unfavorable conditions lead their possessors to the gallows or to the hulks.

"Unless a man's inheritance from the ancestors who fought a good fight in the state of nature, their dose of original sin, is rooted out by some method at present unrevealed; at any rate, to disbelievers in supernaturalism, every child born into this world will still bring with him the instinct of unlimited self-assertion. He will have to learn the lesson of self-restraint and renunciation. But the practice of self-restraint and renunciation is not happiness, though it may be something better.

"One of the oldest and most important elements in any system of government is the conception of justice. Society is impossible unless those who are associated agree to observe certain rules of conduct toward one another; its stability de-

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* Read before the Illinois State Medical Society, May, 1905.

> pends on the steadiness with which they abide by that agreement; and, so far as they waiver, that mutual trust which is the bond of society is weakened or destroyed."
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> Evolution does not necessarily involve perfection, it involves remodeling; but its upward or downward tendency, depending on many conditions, will have to be judged by posterity. Many movements are undoubtedly retrogressive; there is more or less pain and suffering for us all. Error, which is not pleasant, is surely the worst sort of wrong. One man fights out the struggle for existence like a barbarian, a more enlightened one devotes his best energies to setting limits to the struggle. Science demonstrates to us that in prehistoric times man, like other animals, spent his life in struggle with his enemies and in competitive preying on the weaker and less cunning, who went to the wall, though these latter may have been the best. Perpetual war was the normal state of existence. The history of society is a record of the attempts of our race to escape and to enjoy happiness, and of all the successive stages of society that one is the most perfect in which the war of one against the other is most limited. To seek the common weal as much as his own is the matter of the ideal of the most perfected type of man and an essential part of his own welfare.

These quotations from Huxley are intended to place you in a mental attitude which will allow you to view the subject judiciously, without prejudice and without rancor. The matter is certainly one which deeply concerns our profession at present. We physicians, it is said, are no less deeply stained with the supposedly unfortunate taint of commercialism than our brethren, whether they be professional shopkeepers or artisans. The coin is supposed to clink melodiously to many in our ranks and, with the strenuousness of all Americans, we possibly are rushing the financial issue with undue ardor. This is to be no lugubrious address, filled with pessimistic forebodings, but a statement of facts bearing on the issue suggested by its title. To make the matter plain we will put the question plainly, and say:

Does the commercial attitude of the present day American physician interfere with his efficiency or with the progress of the medical profession? Does it lower the standard of the profession before the world and if so, wherein are we at fault and what is the remedy?

Without admitting that physicians are unduly commercial, a phase of the subject which we will discuss presently, it may be stated without fear of contradiction that the efficiency of the medical man was never more evident than at the present time. Never was greater industry or more strenuous effort displayed by any profession, never were more arduous labors performed, never were more sacrifices endured, never was more proficiency advocated and never were more glorious results obtained. The magnificent advance of the art of surgery has blazed the way, and has made possible the solution of innumerable problems by our associates in other departments of the profession, and if the sum total of human happiness is to be measured by the saving of life, then, indeed, should modern surgery be honored and its masters revered!

What concerns us most at present, however, is the part that so-called "commercialism" is playing in the development and efficiency of our art. Primitive man knew no further than the display of his self-assertion in grasping that which suited his fancy or gratified his senses. He slaughtered his neighbor that he might gain his possessions. As soon as his perceptive faculties become developed the babe of to-day grasps that which excites his desires and that inherent desire of possession and enjoyment underlies our very nature—a legacy of man's continual struggle with the forces of nature. In the evolution of society, it becoming evident that unlimited gratification becomes destructive to happiness, we have learned self-restraint, but the old instinct, though skilfully concealed, continues to guide the actions of many. Pelf, power or position is the mainspring which guides progressive man, and ambition, the underlying instinct of normal, active man; he who possesses it not is intellectually dead, or degenerate, or abnormal. To a greater or lesser degree we are all continually struggling for gratification, which, if allowed sway would logically bring us to destruction; and, hence the experience of danger, as noted in the history of our race, has brought us charity, humanity and religion instinctive of self-preservation, in the sense that they prevent the disintegration of society.

Physicians are no more exempt from the inborn desire to possess than other classes of society, and to this attribute is due much of their activity and success at the present time. Remove this motive, give them all they can enjoy, and their efforts would cease and the wheels of medical progress would rust. It is all well to talk of charity and humanity as incentives, but these alone would never suffice. The history of medicine shows this but too plainly.

From time immemorial, to our knowledge many centuries before the Christian era, certain individuals in all societies were recognized as healers of the sick. Our ancestors of those days were nothing to boast of. Probably from the sacrifices imposed on them and transmitted to the present, arose the idea, so difficult to eradicate, that the practice of medicine bears its own reward, in the satisfaction of its devotees in giving their knowledge for charity and humanity. "For thousands of years, the waters of the Ganges have been curing the Hindoo natives and for thousands of years the Brahmans who live in the shadow of the temples of Benares have been chanting the same conjuring formulas, the words of which have not even been changed" (Dr. Paul Bruzon), and ever since the plague has been decimating the ranks of the populace, "The superhuman inertia of their faith opposing all modern progress." "The medical student must abstain from all sensual desires, from anger, from dancing, music, quarrels and games." Even though pestilence and death walk among them unheeded. But even then, thousands of years ago, we see the footprints of boodle, for in spite of the oath of "The Charaka" the students were expected to propitiate their masters by presents of land and gold and cows, horses and rice. And as among the Hindoos so through all ancient tribes of which we have record, the healer's art was supposed to be practiced by conjurers, sorcerers and exhorters without compensation, though it became a matter of history that to cast out the evil spirit from the body of the rich native took many days and a great expenditure in sacrifices of gold and horses and cows, and, probably, because of the lack of fees and definite compensation, botanical gardens and temples of medicine fell into ruin. King Solomon of old, who was a great physician, did not charge his patients, but the mendicant practitioner who succeeded him held out his hand and so did the barber of a few centuries ago, while it is reported that the itinerant surgeon of that era always managed to get away with much stuff if the patient survived.

When scientific medicine became established, that is, when dissections were recognized as essential and physiology was placed on a firm basis, physicians began to expect definite remuneration, though its amount was ago, when my father visited Nélaton, in Paris. each usually left to the generosity of the patron and was largely influenced by the results obtained. Fifty years patient placed his honorarium on the mantel before retiring and pennies and gold pieces were raked in without question as to the standing of the giver. Even to the present day the *"nach belieben"* of the German, and the *"comme vous voudrez"* of the French are still somewhat in vogue and it is not unusual for physicians to delay the sending in of their accounts for several years. The English and Americans were among the first to make it plain to their patients that a definite amount was expected and now they have taken the matter entirely into their hands until the practice of medicine and surgery has in many cases become a business transaction, with "pay on the first of the month" as its guiding motto. Surgeons are even more commercial and many real modern gentlemen of the knife demand pay at the time of rendering service, which, in view of many circumstances surrounding operative work is perfectly legitimate and a matter for each to decide; it should not be subject to criticism and is no concern of others among their fellows. Call it "prompt collection" or "commercialism" if you will, it is a personal matter and does not involve any factor calling for discussion.

Different, however, are practices prevalent among surgical men undertaken with a commercial object in view, which tend to lower the general standing of the profession before the public or to lessen the dignity or self-respect of our individual members. Before entering on this phase of our subject, however, it may be proper to explain briefly why it seemed best frankly to choose this subject for an address, in spite of the many warnings of possible mischief which open statements might entail. A long life of earnest professional labor entitles me to the credit of proper motives, while a careful consideration of present conditions in this regard makes it evident that truthful, unbiased statements, presented in becoming spirit, may assist in preventing much feeling and tempestuous discussions in the future.

Never have the prospects of our great profession appeared brighter, never has our organization reached such high degree of perfection and yet seldom have we seen so much disturbance and personal feeling created as by this question of commercialism among surgeons, until it threatens to undo the efforts of years in making our work effective. To fulfill our destiny as the greatest of all professions, which it is bound to become, we must acquire power, and to gain the latter we must perfect the centralization of our organization, but we must do this with perfect regard for the referendum, which calls and always will call for sufficient publicity among ourselves to attain harmony. It has also been said that open statements of our frailties might attract the attention of the public and discredit our calling. This in my opinion is sheer nonsense and simply indicates the sensitiveness of some of our members. The mass of our men have always stood for frank statements and no evasions, strong in the knowledge that for labor done and results obtained the physician can stand out in the open. I will only dwell long enough on the story of our weaknesses to demonstrate the logic of the conclusions. I have prayed earnestly for guidance to enable me to be tactful, with the hope of throwing oil on the troubled waters.

Remember that "evolution does not necesarily involve perfection; it involves remodeling, but its upward or downward tendency, depending on many conditions, will have to be judged by posterity. Many movements are undoubtedly retrogressive; there is more or less pain and suffering to us all; error which is not pleasant is surely the worst sort of wrong." To desire to make money is a natural instinct of man; money buys bread and if associated with merit and ability it buys power and position. A German writer by the name of Zimmerman, has just edited, in Berlin, a book in which he says that Americans are utterly sordid and egotistical, depraved and without heart and unable to grasp the conception of an ideal. In answer to such absurd statements, it may be asserted as a provable proposition that commercialism and idealism are not incompatible and that the most vulgar forms of the former have frequently been associated with actions indicating the highest type of ideals. In spite of its commercial supremacy, which to a great extent is the result of surroundings and circumstances. America as a nation, in its past history, in its development and in its present position among other nations, stands as the ideal of the human family. And so it is with our profession. Whatever there may be of commercialism among our individual members, it is mostly the evidence of the making the most of presenting opportunities, due to the common instinct of all mankind in its struggle for existence, and is in no way incompatible with the highest type of idealism. How possessions are gained, how expended, this is the vital qualification. What might be termed improper commercialism by a physician implies not the desire to obtain money or its possession, but the use of improper methods, producing injury to the patient or to the community, to his fellow, or to the profession at large.

There is little to be gained by analyzing the commercial portion of our work in order to establish the resulting characteristics of harm; it seems more direct to mention such practices as are claimed to exist among us, which tend to injure our profession, commenting only so far as their gravity and the disturbance they have caused would seem to warrant.

It is rumored that some surgeons perform unnecessary operations or operate too hastily, without careful analytical investigation of each individual case, or operate on patients curable by less dangerous medical methods; that they charge exorbitant fees; that they make false or ambiguous statements concerning suggested competitors, or that they perform criminal and improper operations, and what not. Of course, this is all true. Some men do all these things, our profession is not free from black sheep. There are abortionists and rascals among physicians; there are thieves and lawbreakers recognized at the bar; there are "wolves in sheep's clothing" wearing the cloth, and the realization of a world without these unfortunates is still a hazy dream. Yet, without condoning their offenses before meting out final judgment should we not carefully weigh their respective responsibilities, bearing in mind their organic peculiarities, the incidents of their development, and the trials and temptations surrounding their fall? To take what belongs to another, or even to take life, is not always theft or murder. Apparent guilt only becomes crime when all attending circumstances have been strictly taken into account.

With these reflections on phases of medical frailty and neglect, which are unpleasant to dwell on, and which, after all, in a different aspect are simply peculiarities incident to members of all trades and professions and all walks of life, let us pass to the consideration of another variety of supposed medical misdeeds, which have really been instrumental in prompting me to choose this subject. I refer to what has by some been called "medical graft." This term has been much in vogue these latter years, and, as usually applied among surgeons, it implies the offering or accepting of bribes between medical men to promote the influencing of patients toward accepting the services of the dividing surgeon irrespective of the quality and value of the services rendered. The progress of the medical profession has been marked by at least the average number of exciting episodes, leading to dissension and it might truly be said that, barring the holy clericals, no peaceful profession is more keen for a "scrap." It is a decade or two, however, since so much acrimonious discussion has arisen among surgeons as has resulted from this source. For a few years past, it has been whispered that the secret of success of certain surgical gentlemen lay in the fact that they "paid commissions" to medical men to divert patients from the direction of the shining lights in the surgical and particularly the college arenas, and this use of money has been characterized as unprofessional, irregular and improper. I will use no stronger terms, as my hope is to appease, not to arouse. The very nature of these practices makes their detection difficult, but there is little doubt that the evil does exist and always has existed, though it is only lately that it has given rise to discussion. If we search the records of antiquity, we recognize that though medicine was practiced by the gods and kings its commercial side was never entirely lost sight of, and the sacred book of Persia contained a fee bill in which the charges varied from receiving a benediction for curing a priest to an ox of the best breed for relieving the heir of a country chief, while the ancient Egyptians before the founding of the school of Alexandria, which might be said to mark the beginning of scientific medicine, allowed certain healers to enjoy a monopoly of the practice; in the reign of Rameses II, an individual was executed for stealing a medical tract from the records of Pharaoh, and ever since there has no doubt been the necessary amount of trading and bartering among us as among all men. "I'll do as much for you as you do for me," however homely the expression, has ever been a universal principle.

This boodle excrescence on the body medical is a nonmalignant, heterogeneous hypertrophy, which has become a deformity. Some prominent gentlemen among us have lost their heads about its treatment and by irritation and counter-irritation have produced an ulceration of the outgrowth that has increased its size and rendered it distressing. Like many benign enlargements, it is usually curable; some cases are medical and others surgical, and the symptoms are excessively obscure in the incipiency of the disease. The individuals affected have a forlorn, hang-dog look about them when first afflicted and an uncomfortable feeling of malaise, accompanied by chills and fears, which after proper incubation is replaced by a brazen hue and a cold stare in the established and pronounced form of the disease. It has long existed in the sporadic form, but in late years has become somewhat epidemic. In large and thickly settled communities it affects groups of medical men, guided by a surgical chief, but many smaller towns are absolutely saturated with its pathogenic micro-organism and there is always a virulent outbreak when a metropolitan surgeon comes to the town and operates on a pay patient. The outbreak ends at once if the patient dies, but never completely disappears if the patient recovers.

Neither is the trouble endemic or indigenous to America. It is prevalent in many parts of Europe, but is more restricted there because of the paternal interest which governments take in the profession and its members, by bestowing rank and titles on the deserving, so that the public may know who is who.

Etiologically speaking, it is not difficult to recognize how this commercial taint has lately come to play such a large part in the transactions between physician and patient and between the physician and his fellows. Not more than twenty years ago, modern pathology became sufficiently well established to be recognizable even by the laity as a basis for the intelligent practice of modern medicine and the earnest students of that time, who were sufficiently proficient and possessed the necessary personal qualifications are now enjoying well-deserved prominence. Many men in their prime have seen their progress arrested by this pathologic awakening and many good men, prevented by circumstances from ceasing active work and thus obtaining the time to take up studies on more advanced lines, have been obliged to take second place and have seen younger but more thoroughly drilled men forge ahead of them. Many a venerable and experienced practitioner has to look back to 1880 or thereabouts to note the high-water mark on his ledger. Simultaneously came the activity of the medical school, itself often, and usually, at least in the beginning, a commercial enterprise, and the land became peopled with physicians so that the struggle became still more intense, and then later, not an inconsiderable factor, came the fads, Christian science, Dowieism, faith cures and their ilk, while all this time the great pathologic young Napoleons, specialists in internal medicine, were sitting up nights writing treatises on sanitation and prophylaxis, the questions of modern methods of diagnosis, and the possibilities of the future, but usually winding up with practically an acknowledgment that treatment was not as yet thoroughly successful but that strychnia, nitroglycerin and sustaining remedies were always advisable. Goodness gracious, if antitoxin had not come on the scene how monotonous it would have become!

This is not spoken in derision; I am only trying to depict the position of the good doctors who, by force of circumstance, were halted when the age of the pushing young Vienna man came to pass.

Add to this the cheering knocks of the modern neurologist and the stomach specialist and then take another look at the general practitioner's ledger. Meanwhile, the worst beast of prey of all was leaping along in bounds; it was the surgeon, taking great, big chunks with knife and forceps and scissors, right out of the physician's practice. Said he: "It is appendicitis and needs quick work, but not for you." No more long declines with pain low down: "These ovaries or this womb must out." "That pain below the ribs, 'tis cholecystitis and stones; don't let her vomit so; I'll do a gastroenterostomy." In goes the surgeon, out goes the physician. Quick work; no more lingering cases and fat bills, at least for the physician, who is not young and who never could stop and go to Vienna. Well, they will all turn. They are only men, and like all men driven to bay they will struggle to the end—the eternal struggle of life, and they will take what they can reach and no good man will snarl. This may be allegorical, but it is true.

Times have changed since the reign of Rameses II, and the edicts of Pharaoh are void in this country.

No set of surgeons can long enjoy a monopoly, and it has come to pass that surgeons are jostling each other. The study of that portion of medicine which is called surgery is comparatively plain and, given certain personal characteristics, its practice is reasonably easy. Internal medicine (except to the successful Viennese) is most scantily remunerated; surgery flourishes in a field strewn with gold, and now colleges are practically schools for turning out young surgeons, and many of the commercially inclined schools teach no more medicine than is necessary to pass the state board, while postgraduate schools are institutions where surgical operations are shown at so much a month. Surgeons are, therefore, becoming very numerous and are keenly striving for recognition and a few fleshpots, and the struggles of general practitioners are nothing to what we are to witness in the surgical ring. Already we have the percentage dividing surgeon and the receptive physician. The conditions just outlined and other factors are responsible for their coming. The real study of medicine and surgery, as taught in our best colleges, necessitates such arduous labor that the good students are bound to succeed and can hardly be restrained. Their number is becoming so great, in proportion to the population, that competition is excessive and their desire to become known is so irrepressible that, come what will, and almost unknowingly, they push in paths that lead to the bush instead of the high and only way. If conscience speaks, well, it is business. Hence the commercial atmosphere which surrounds us and threatens to destroy us. The old story, "the self-assertion necessary to the maintenance of society against the state of nature," is carried too far.

Fellow members, in your heart of hearts you know the truth lies in the assertion that the almighty dollar is the prime object in view these latter days, to a greater degree than we of this epoch and our fathers have known, but no more may we add that it is to others outside of our ranks. The whole American nation seems, to the inexperienced mind, to have gone cash mad, and American surgeons to have become tradesmen.

Were this address to stop here it would do the noble members of our body great injustice; still, before filing with you certain statements which are a fitting complement to the rather unsparing criticisms just offered, it seems both logical and becoming to take into consideration the results of our present commercial attitude in its effect on our patients, the more so as this must, in perfect justice, become a major factor in forming proper conclusions.

It is evident that this must to some extent interfere with the efficiency of our service, which for all time has been freely given to rich and poor alike, a sacred pledge, which, it must be acknowledged, has always been faithfully observed by the great mass of our profession; still, it must be admitted that some harm results. This is made manifest in many ways, which I have already mentioned, and all that need be said is that anything that detracts from the ultimate ideal of the true physician's endeavor, namely, the curing and relief of the patient, tends to lower our self-respect and our standing before the community. Yet, in these competitive days, have we not the right, even though we deal with human life and comfort, to look somewhat to our self-protection? To enumerate in detail that part of our subject which refers to individual ways in which commercial ideas may and do interfere with efficiency would not serve our purpose. Enough has been mentioned to show that modern money getting threatens to lower the quality of our goods, and those of you who give this matter the reflection it deserves need not be told how or where, for you all know.

This was a hard address to write and a source of distress to me, and the excuse lies in the thought that it would best be done for the good of us all; that by looking a glaring evil straight in the face we might see our way out creditably before we fall into disrepute. The fault is not ours especially; it is not the physicians only who are reaching out for the pelf, or the power, or the position; it is the preachers and the lawyers and the politicians and the laborers and all the world. It is a part of a universal scramble which is going on in our country, the result of the individualism which unrestrained Americanism and misinterpreted freedom has brought about. We are living in an age of disturbance, with its incident distress, characteristic of evolution or remodeling. There is danger of retrogression unless the mirror is placed before us occasionally. There is no need to become pessimistic, the difficulties will straighten themselves out. In a country with such unrestrained liberty of action as this is, "the insatiable hunger for enjoyment," which must of necessity break out once in a while, will not be allowed to become the agent for destruction of society which some croakers would have us believe; for, though many individuals do not have, the great body has, the conception of justice. In our little medical world, composed of excessively individualized, fearless men, the idea of fairness and the conception of justice is clearly crystallized and, though discussions may and must occur, we eventually come back to the observance of those certain rules of conduct toward one another on which the stability of society depends. Mark, in spite of many of our struggles in the past, how far our organization has progressed, how wide the doors have opened charitably to allow entrance to some who are almost pharisees among us, trusting to the cheering influence of the warmth within to purify them and to fit them for the fold.

Take this matter of commercialism among us—it will settle itself. Decoy traps to catch your brother will only heat the blood. It ill becomes certain men among us, safely ensconced in impregnable positions, to strike so hard on the vulnerable side of a brother who is striving to climb the hill. Better take him by the hand and help him in the ascent. Take this question of division of fees, for example; there is a good deal of it going on, more, probably, than any one knows. It is an undignified procedure and its devotees are not talking much about it, and when covertly charged they change the conversation. The discussion of this matter and of incidents connected with it almost annulled the work of years which had been spent in thoroughly organizing the profession of Chicago. I will go further, at the risk of being anathematized, and ask, "has the practice done so much harm as to call for the most bitter denouncement, and the introduction of punitive measures in our societies and the use of most undignified methods in attempts to abolish it? Does the practice rob the patient or lessen the efficiency of the service he receives? In my opinion it does neither. The practice is undignified, carries its own punishment and will eventually die out, except among a class which will never be reached by either denouncement or punitive resolutions. In some towns it is an established custom, and it is pathetic to witness the struggles made against the importation of a foreign surgeon, by lowering the fees or by offers of division to the attending man. This, again, is an incident in the struggle for existence. Some of these local surgeons are good men, ambitious, striving fellows, well prepared for their work and in every way competent. To see outsiders come and pick the fruit from their own garden walls is more than they can stand, but it is probable that they suffer by their methods and, in a lifetime, lose more than they gain. What about the country practitioner who does not practice surgery—the man who gives hours to the patient and gets dimes, while the surgeon gives minutes and gets gold? I do not know.

Now, I must leave this phase of the commerce of surgery, for I am told by some good friends (none of them make less than $20,000 or $30,000 a year, and who are working harmoniously together in faculty groups) that I am going to hurt myself and fall under suspicion.

Why tarry longer on this unsavory repetition of unpleasant facts known to you all? Following the general trend of our people in the development of excessive egoism we have become commercial to a degree, rather inconsistent with the altruistic characteristic of our calling. From the man who charges $5,000 for aspirating a knee joint or for removing a catarrhal appendix and crucifies the two little fellows who are dividing a $100 fee on the sly for just as good service on a ploughboy, to the one who runs a sanitarium on founders shares, and a salary, we have been losing sight somewhat of the fact that our profession is a quasi-public one, attracting an immense amount of attention, destined to a great future, and that the personality of our membership should not be allowed to deteriorate and that, for the benefit of our society, we should seek to obtain permanency by living in the proper midline between self-assertion and self-restraint. We have little to worry about just now, that is, we surgeons. Business is good and getting better, but let us not forget that good business does not always insure the permanency of prosperity and that there is an ultimate beyond commerce in surgery. It is not our purpose while addressing a special class to charge all others with wrong tendencies, but simply to offer suggestions for reflection. The world is not all bad by a good deal, but on such occasions as this it is proper to point out the swayings of our people in any direction which may seem to indicate retrogression.

The progress of a nation is diversified by movements in which idealism and materialism predominate by turns and just at present in this "age of the hand" and the "rule of the common people," materialism is uppermost and commercial notions prevail. Meanwhile the minority is not idle and restraining influences are at work, which are bound to bring us all back to the middle line. This is the sentiment which has prompted me to address you on this subject. Let us take the highway of progress, drop anarchistic edicts and silence autocratic dictums and punitive regulations. Let us hold before us a rational conception of the future spiritual man and exhibit reasonable discrimination in dealing with such problems as come to us in the discharge of our duties as men and citizens and remember that only "such as are observant, critical and possess great powers of mental representation can adequately discriminate."

Herbert Spencer says:

> Altruism includes justice and beneficence. The first implies sympathetic recognition of others' claims to free activity and the products of activity; the other implies a sympathetic recognition of others' claims to receive aid in the obtainment of these products and in the more effectual carrying out of their lives. The highest sort of life, individual and social, is not achievable under a reign of justice alone; with this must be joined a reign of beneficence. The requirements of equity must be supplemented by the promptings of kindness. The battle of life carried on by competition, even within the bounds set by law, may have a mercilessness akin to the battle of life as carried on by violence. Beyond those limits to the actions of individuals which it is the business of the state to maintain, individuals have to impose on themselves further limits prompted by sympathetic consideration for their struggling fellow-citizens.

I am not here to apologize for prevailing forms of commercialism which tend to degrade our calling, and of which we have spoken. I speak for the future, and bespeak an unbiased, calm decision on the best methods of eradicating or minimizing existing evils. A considerable part of these rightly may be attributed to the course of life of the very men who condemn them so strenuously. In the keen competition of the battle of life they have forgotten that for ethical function equity should be supplemented by kindness. Omission and a lack of perception are not commission. Within the bounds of law they have lost sight of negative beneficence. They often began by being commercial until beyond want and now they are moralists. They hold more positions than they can fill satisfactorily; they perform more operations than they can do full justice to, or of which they can overlook the care; they often oppose the rise of their peers and particularly their superiors on their faculties; they boast of their large fees and their annual income, exciting the cupidity of their fellows, all of which is properly within the law, but is an element in the development of present conditions. Add to that the elements which I have shown and you have the reason for commercialism.

All this writing is a plea for the exercise of negative beneficence on the part of our profession in regard to this whole question. While proved violations of the law of ethical conduct should be given publicity and be visited by just penalty, wholesale denunciations should be decently omitted as tending to disorganize our ranks and doing injury to men whose mistakes have resulted from force of circumstances and surroundings and from the strenuousness of the age in which they live. Let those of us who are successful make it our duty to help others to a firm footing beyond the need of dubious methods. To eradicate impure commercialism entirely may be impossible, as it is founded on man's inheritance of original sin and because reasonable commercialism is an incentive in life, but it is not impossible by harmonious co-operation to cultivate a desire for a higher standard, by combining justice and beneficence. The practice of self-restraint and renunciation is not happiness, though it may be something better.

Paper for Dressings.—Olpp writes from China to the *Münch. med. Wochft.* that he has been very much pleased with the very thin, soft, porous paper made there as an inexpensive substitute for ordinary dressings for wounds. He describes how the paper is made from bamboo pulp, and states that he crushes a sheet into a loose, soft wad, applying as many of these wads as necessary after sterilizing them by baking an ovenful at a time. If the wound is suppurating, he applies a single layer of gauze before packing with the wads. The convalescents crush the paper into the loose wads, giving them something to do and think about. He has also found the ashes of rice or other straw, such as the Japanese use, a valuable material for dressings.

Special Article

IMMUNITY.

CHAPTER XIX.

DIPHTHERIA.

Characteristics of the Organism.

The *Bacillus diphtheriæ*, or Klebs-Loeffler bacillus, was discovered by Klebs in 1883, and more fully described by Loeffler in 1884. It answers all Koch's laws in its relationship to the disease of diphtheria. It is a non-motile, rod-shaped organism having about the length of the tubercle bacillus but twice its thickness. It stains by Gram's method, and with the ordinary anilin dyes, and with the special stain of Neisser shows a peculiar granulation, the granules of Babes-Ernst. It is readily cultivated, especially on solid media which contain serum and in various bouillons. It tends to grow in coherent masses and under the microscope the cells often show a characteristic phalanx-like arrangement. One end commonly presents a flask-like enlargement. It is an obligate parasite having no vegetative existence outside the body. It is very resistant to desiccation and may remain virulent in a dried state for from one to five months. Its life in water varies from a few days to several weeks, having its shortest existence in distilled water and its longest in hydrant water which has been boiled. It disappears more quickly from unboiled hydrant water. It is very susceptible to ordinary antiseptics, being killed in a few minutes by corrosive sublimate even in a dilution of 1 to 10,000.

Pseudo-diphtheria Bacilli.

Bacillus Xerosis.

Microscopically and culturally the bacillus of diphtheria can be distinguished with difficulty from a variety of other organisms which belong to the same group, and which are called pseudodiphtheria bacilli. The latter are frequently found in diphtheritic throats, but occur also in the upper air passages and conjunctiva in the absence of all lesions. On the whole they are non-pathogenic, but occasionally a culture is found which causes a subcutaneous infiltration at the point of injection in an experimental animal. Hamilton cultivated one which was distinctly virulent for animals. Their pathogenicity, however, is altogether different from that of the diphtheria bacillus; diphtheria antitoxin does not protect against them nor do animals which are immunized with pseudodiphtheria bacilli become immune to the toxin of diphtheria. The animal experiment is the only positive means of differentiating the true from the pseudodiphtheria bacilli. Some consider them as nothing more than diphtheria bacilli which have lost their virulence. Biologically, however, they seem to be very far removed from this organism. The *Bacillus xerosis*, which is thought by some to be the cause of xerosis conjunctivæ, but which is also found under normal conditions, is a pseudodiphtheria bacillus.

A knowledge of the existence of these organisms may complicate the diagnosis of diphtheria in some cases, but there is little danger of serious error. If one found organisms resembling the bacillus of diphtheria in a membranous sore throat which was accompanied by severe symptoms, there could be no wavering in the decision to use antitoxin.

Methods of Infection.

The sources of infection may be enumerated as follows: 1. From the false membranes, sputum or excretions of the mouth, pharynx, nose, conjunctiva and deeper respiratory passages of the infected individual. 2. From convalescents and those who have fully recovered, even after serum treatment. Virulent organisms may persist in the pharynx or nose for weeks and months after recovery, in one of Prip's cases for twenty-two months. 3. From the upper air passages of healthy persons who may never have had diphtheria, but who have been in direct or indirect contact with the diseased. Kober obtained virulent bacilli from 8 per cent. of the individuals who had been in direct contact with patients, and he states that 0.83 per cent. of the people at large carry with them virulent organisms. This condition may well account for the "spontaneous" origin of diphtheria in the susceptible. 4. From cases of latent diphtheria as represented in chronic pharyngeal diphtheria and in chronic rhinitis fibrinosa.

Consequently infection takes place chiefly by direct contact, but frequently also by indirect contact. Transmission by kissing or by other means of intimate contact, by using infected cups or toys is well recognized. "Drop infection," i. e., from infected globules of mucus or saliva which the patient emits when speaknig or coughing, may occur, but perhaps is not of great significance. The same probably is true of "dust infection," although, as stated, the organism may remain living and virulent in a dried state for a long time. The disease is rarely transmitted from animals to man, although this may occur from the cat, which occasionally suffers from true diphtheria. The diphtheria of fowls is due to another organism.

The upper air passages, more rarely the conjunctiva, wounds and the vulva, are recognized as infection *atria*.

Pathogenesis.

The local and general phenomena of diphtheria are caused by the soluble toxin which the organism secretes. Although the toxin is not absorbed through, nor does it injure the unbroken skin, it produces necrosis of the mucous surfaces and underlying tissue through which it is absorbed into the lymphatic and blood streams. Through the wounded surface also fibrin-forming elements escape, as a consequence of which successive layers of fibrin are deposited; the fibrin, together with the necrotic surface and the leucocytes and micro-organisms which they contain, constitute the membrane.

Localization of the Bacilli.

Characteristically the bacilli are localized at the site of infection. It is generally stated that diphtheritic bacteriemia rarely occurs, but in one instance bacilli were found in the blood and internal organs in ten out of fourteen cases.

The clinical and anatomic conditions lead us to believe that the parenchymatous organs, the lymphatic tissues and the cells of the nervous system contain receptors with which the toxin unites, for these are the tissues which in particular suffer anatomic injury in the disease. When the toxin is injected subcutaneously into animals localized edema and necrosis occur, hence the connective tissue may also take up a good deal of toxin, diverting it, so to say, from the more vital organs.

Mixed Infections.

Mixed infections, especially with the streptococcus, which, according to Baumgarten, occurs in most cases, render diphtheria a more dangerous disease. Roux and Yersin found that the streptococcus increases the virulence of the diphtheria bacillus both in the test-tube and in animal experiments. Furthermore, the situation may be complicated by a streptococcus septicemia, of which acute nephritis and lobular pneumonia may be the direct consequences (septic diphtheria), and in this condition the diphtheritic infection may fall into the background in importance. Post-diphtheritic suppurations commonly are caused by the pyogenic cocci, but sometimes in association with the diphtheria bacillus itself. Rarely the bacillus is found in pure culture in lobular pneumonia, and Flexner and Anderson produced this condition with the organism in experiment animals. In puerperal infections with the streptococcus a puerperal diphtheria is sometimes superimposed.

Immunity and Susceptibility.

Very young children resist diphtheritic infection. A certain degree of immunity may be transmitted by the mother. Experiments show that when the blood and milk of the mother contain antitoxin, the offspring acquires some protection, which, however, may disappear after the cessation of nursing. Polano claims that antitoxin passes from the mother to the child through the placenta. From the second to the seventh or eighth year children usually are very susceptible. This susceptibility is not uniform, however, for many children escape infection, whereas others do not under the same conditions. Following this period susceptibility decreases and after the fifteenth year cases are relatively rare. The cause of the immunity which develops without infection has not been sufficiently investigated. In some cases considerable amounts of antitoxin are found in the serum, perhaps enough to account for the immunity.

The prolonged presence of bacilli of low virulence in the nose or pharynx, or mild attacks of the disease which have not been recognized may cause the development of antitoxic immunity. As stated in an earlier chapter, the loss of suitable receptors may be a factor in the acquisition of this immunity.

Hypertrophic tonsils and chronic pharyngitis appear to be predisposing causes in children.

Active Immunity.

Spontaneous recovery (active immunity) is due solely to the formation of the specific antitoxin by the tissues of the patient. We may regard the relationship of the leucocytes to diphtheritic infection as not definitely settled. Marked leucocytosis sometimes occurs. Certain observers hold that this condition is an unfavorable prognostic sign, although Besredka and others take the opposite view. An accompanying streptococcus infection may account for a hyperleucocytosis.

The duration of active immunity to diphtheria varies greatly. Usually one has diphtheria but once, yet not infrequently susceptible individuals have repeated attacks. In some instances the susceptibility continues into adult life.

Prophylaxis.

The advent of serum therapy justifies no relaxation in the customary prophylactic measures, such as isolation of the diseased, quarantine and disinfection. A patient should not be considered harmless until his mouth, pharynx and nose are free from bacilli, a condition which may be brought about by antiseptic applications, and for the determination of which repeated bacteriologic examinations are necessary. The danger that others who have been in contact with the patient may carry the infection should be met by appropriate treatment. It is not to be forgotten that antitoxin does not destroy the organisms. The injection of antitoxin is our most effective measure for individual prophylaxis.

Serum Therapy.

The efficacy of diphtheria antitoxin is so well known that little comment is needed. It has caused a reduction of more than 50 per cent. in the mortality of the disease; from 41 per cent. to 8 or 9 per cent., according to Baginsky.

For prophylaxis from 500 to 1,000 units are generally recommended, although some foreign authorities give only 250 units. Rarely, individuals who have received such treatment develop diphtheria within twenty-four hours after the injection. In these cases it is probable that infection has already occurred and symptoms appear before the antitoxin is thoroughly distributed. Naturally one may contract diphtheria after the antitoxin is eliminated.

For curative purposes the amount actually required depends on the virulence of the infection and the duration of the disease. Inasmuch as the virulence may not be known accurately, what appears to be an excess of antitoxin is always demanded. Having in mind the average dose of 3,000 units recommended by the forthcoming United States Pharmacopeia, the physician must be guided by the conditions in the individual case. Less than 2,000 units are rarely indicated, and as many as 10,000 and 14,000 units have been given without detriment. There should never be any hesitation about repeating a dose within twenty-four hours in the absence of distinct improvement.

Ransom and Knorr state that if the antitoxin is given intravenously, which may be done without danger, the action of the serum is about eight hours earlier than when given subcutaneously. In severe and in late cases it is advisable to use this method of introduction, the serum first being warmed to the temperature of the body.

It is probable that few cases are so mild or so hopeless. unless moribund, that the omission of antitoxin is justifiable.

Diphtheritic Paralysis.

The belief that antitoxin favors the development of diphtheritic paralysis is no longer held. If there has been an actual increase in the percentage of cases which suffer from paralysis, as sometimes stated, it is because a larger number of severe cases is saved; and the severe cases are those which most frequently develop paralysis. If we accept the view of Ehrlich that a special toxin of weak affinity for the antitoxin, i. e., the toxon, causes the paralysis we find all the more justification for large doses of antitoxin, for antitoxin neutralizes the toxon as well as the toxin. On the basis of experimental work Ransom concludes: "Transferring the results (of experiments) to practice among human beings, we may expect liberal doses of antitoxin given early in the illness to influence favorably the subsequent paralysis; and this favorable influence is likely to manifest itself, not so much in the local paralyses (soft palate, etc.), as in such fatal symptoms as failure of the heart. Severe cases, however, are likely to be followed by some paralysis in spite of even large doses of antitoxin."

Cases in which there is severe mixed infection, septic diphtheria, respond less favorably to antitoxic therapy than uncomplicated cases. At some time a mixed serum therapy suited to the mixed infection may be possible.

The suggestion made by Wasserman of a combined treatment with bactericidal and antitoxic serums has not been applied practically.

Agglutination Test.

Inasmuch as the serum of the patient does not develop agglutinins, the agglutination test is of no value for the recognition of the disease. If animals are immunized with the bacillus, agglutinins are said to be formed. The serum of such an animal may be used for the identification of a culture made from the throat, but this would have no practical value, for the diagnosis may be established by the ordinary bacteriologic methods much more quickly and satisfactorily. It is difficult to obtain a homogeneous suspension of the bacillus for the agglutination test.

Clinical Reports

STRANGULATED FEMORAL HERNIA IN A MAN OF SEVENTY-FIVE.

RESECTION. RECOVERY.

CHARLES S. WHITE, M.D.
House Surgeon Emergency Hospital.
WASHINGTON, D. C.

The following case presents some unusual features that seem worthy of notice:

Patient.—C. P., aged 75, male, white, farmer, widower, born in Virginia.

Family History.—Parents died, after short illness, of cerebral hemorrhages, but at an advanced age. One brother died of intestinal obstruction, one of sunstroke. Two sisters are dead, but cause of death unknown. Of six brothers, five had acquired hernias. None, except this patient, has been operated on. He has a nephew who is ruptured.

Previous History.—The patient has had the usual infectious diseases of childhood. In 1895 he had cellulitis in his arm, following a wound of the hand, and he was disabled for four weeks. In 1898, he had a mild attack of pneumonia. With these exceptions, he has been unusually well, and until the present time he has been doing farm work every day.

Present Illness.—On May 17, about 8 a. m., while lifting heavy logs, he had a sharp, severe pain in the right groin, but worked an hour longer. The pain increased and became unbearable so that he was obliged to return to his home, a distance of six miles, a half a mile of which he walked. He noticed the swelling over Poupart's ligament, and was seen by two physicians between 4 and 6 p. m., but neither was able to reduce the mass by taxis. He vomited once during the afternoon and spent a sleepless night. May 18 he was no better, and he was brought to this city. His bowels did not move any time after the initial pain until after the operation.

Examination.—When admitted to the hospital he was unable to walk and complained of pain in the groin; his pulse 90, full and strong, and temperature 97 F. He had not vomited during the previous twelve hours and was not nauseated. Near the lower attachment of Poupart's ligament there was a tumor about the size of a walnut, tense, not fluctuating and without impulse on coughing. It could not be reduced. The external inguinal ring could be felt and the swelling was below it. The skin was not inflamed. The abdomen was slightly distended.

Operation.—The patient was etherized and an incision about five inches long was made parallel and just below Poupart's ligament. The sac was exposed and was found gangrenous and constricted at Gimbernat's ligament. A knife was introduced on a grooved director and the stricture incised and torn sufficiently to release the hernia. The sac contained about two drams of bloody serum and a knuckle of sphacelated intestine. The abdomen was opened through the right rectus, and one and a half inches of ileum removed and an anastomosis made by a Murphy button. A wedge-shaped piece of omentum was excised. The sac was next transfixed by sutures, snipped off, and the stump returned to the abdominal cavity through the femoral ring. Then a radical operation for femoral hernia was done after the method of Bassini; kangaroo tendon was used for the buried sutures. The abdominal wound was next closed with catgut and silkworm gut. The operation consumed one hour and fifteen minutes.

Result.—The patient made a good recovery, sat up on the twenty-second day and left the hospital one month from the day of admission. The button was passed on the tenth day.

Remarks.—Only a very small percentage of hernias in men are of the femoral variety, and the occurrence of rupture in five of six brothers, while only a coincidence, naturally suggests an inherited weakness. In those cases of strangulated hernia in which the active reflex symptoms, nausea and vomiting, are replaced by a quiet, even painless period, we are sometimes deceived and imagine our patient is better. It is a condition which often precedes a fatal termination, and this can not be emphasized too strongly. The surgeon-general's library contains the report of many cases of femoral hernia with complications, but few in which a resection was done in an older patient than in the case here reported.

TRAUMATISM OF THE RIGHT KIDNEY.*

CHARLES B. DYDE, M.D.
GREELEY, COLO.

History.—G. C. F. came under my care April 28, 1905. Ten days previously he had been kicked by a horse, in the right lumbar region, while at work in a livery barn. During these ten days he had been cared for at Kersey, Colo., where the accident occurred. He was prostrated by the force and shock of the injury and for some days suffered intensely. Six or seven days later, as he was feeling much better, he dressed and walked for a few minutes. This was followed by considerable hemorrhage from the bladder, a slight trace of which was observed the day after the injury. As this complication continued, he was removed to Weld County Hospital, where I first saw him. His previous history presented some interesting and noteworthy points. Three years earlier, while in the United States Navy at Norfolk, Va., he had been operated on for appendicitis. Peritonitis and a fecal fistula developed and posterior drainage was made. Later empyema appeared, and this was also drained. Before the integrity of the bowel was restored he underwent a series of six operations. In a year's time he was restored to health, receiving as a legacy an extensive system of adhesions on his right side from diaphragm to pelvis.

Examination.—He was a young man, aged 23, of good development, well nourished, and when not in pain looked well. His condition at this time was marked by severe pain in the right side of the abdomen and very bloody urine; temperature normal and pulse about 80. The right abdomen was very rigid and slightly swollen. The side on a level with and a little anterior to the quadratus lumborum showed the site of the impact, being still discolored.

Hospital History.—During the ten days succeeding his admittance to the Weld County Hospital he showed some improvement, the urine gradually cleared and the pain diminished. Morphia, of which he had been receiving thus far one to two grains daily, was now gradually omitted. The swelling, external to the adhesions, was slightly increased; and the rigidity remained. At this time of apparent improvement, contrary to instructions, he got out of bed and walked as far as the ward lavatory. This indiscretion was followed by a return of both pain and hemorrhage. The pain was very severe, extending from right kidney to testicle, and intermittent in character. He would lie on his right side, knees doubled up, one hand supporting his scrotum. The urine at this time became so bloody that a catheter was frequently required to relieve the bladder. In consultation with Drs. Church and Hughes it was agreed that the renal colic was due to blood clots passing down the right ureter, and that the tumor was probably a sac of extravasated blood. The advisability of operation was considered at this time, but he was strongly opposed to this, his previous experience giving him a strong distaste for the knife. This condition of pain and hemorrhage continued for several weeks, with occasionally a short amelioration of symptoms. As a rule from one to two grains of morphia were required during the twenty-four hours to control the pain, the amount being gradually increased. By this time he had become thin and very anemic; his appetite was poor and bowels constipated. The tumor was very marked, and the rigidity was extending. The pain while sometimes that of renal colic, was usually a general pain through the abdomen, burning in character, and extending well over to the left side. The temperature presented an occasional rise of a degree or two; the pulse was the same as before, but somewhat weaker. During the first ten days of June, the hemorrhage continuing, his weakness increased, and his condition was rapidly becoming critical. At this time a consultation was held and we decided that operative measures presented the only sign of hope. This conclusion was communicated to him and his consent was obtained.

Operation.—We operated on the morning of June 13, just eight weeks after his injury. Kocher's oblique incision was made, by means of which the kidney may be exposed and, if necessary, removed. After going through the layers of muscle and fascia, instead of perirenal fat or kidney presenting in the wound, we found we had opened a large cavity, which seemed full of blood clots. On removing those most superficial, which were partly organized, we encountered a profuse and active arterial hemorrhage. At this moment the anesthetist, Dr. Weaver, stated that the pulse suddenly increased to 140. Compression controlled the hemorrhage until a number of strips of gauze were tightly packed into the cavity; at the same time strychnin and normal saline solution tided the patient over and prevented death on the table. He lived eighteen hours.

Autopsy.—This revealed what we considered an unusual and remarkable condition. The right kidney, entirely free in the cavity, which contained two quarts of blood clots, was broken into three pieces, retaining not the slightest connection with vein, artery or ureter. We considered that his days had been prolonged by the system of adhesions, which walled off and limited the hemorrhage, and that the gradual stretching and tension of these, as the swelling increased, created a great deal of the abdominal pain.

A PECULIAR CASE—PERHAPS NEURASTHENIA.

WILLIAM HIMMELSBACH, M.D.
SAN FRANCISCO.

History.—Woman, aged 35, single. When I first saw the patient, in June, 1903, her condition was that of a pronounced neurasthenic. There was mental depression, irritability alternating with apathy, pain in neck and along the spine, tremor of the hands, occasional twitching of muscles of the face, and dilated pupils. She had been in bed two weeks. Her previous history was that of a well-balanced, active woman, fond of outdoor recreations of all kinds and passionately devoted to music. Her weight previous to her illness was 135 pounds. Like most neurasthenics, she had an obsession; hers was that food is injurious. From the relatives the following facts were elicited: She had gradually abandoned all her pursuits, complained of tiring easily, and had lost flesh gradually until at my visit she weighed but 85 pounds. There were no indications of an acquired neurasthenia through the usual exciting causes, neither was there any family history that pointed to an inherited neuropathic tendency. Examination of pelvic and other organs was negative.

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* Reported at the Weld County Med. Society, 1905.

Treatment.—No medical treatment was instituted, but, after gaining her complete confidence through various suggestions, she again took up her former pursuits, and within three weeks developed a voracious appetite, accumulating fat at such a rate that in March, 1904 (a period of nine months), she weighed 240 pounds, an increase of 155 pounds, accompanied by an amount of physical energy that was startling. Any attempt to restrain either her appetite or her movements was met with violent opposition.

Subsequent History.—So she remained till June, 1904, when, just as unaccountably, she stopped eating and the adipose tissue visibly melted away, so that in October, four months later, she dropped from 240 to 135 pounds. Her pulse became feeble and rapid, at times almost imperceptible, requiring considerable stimulation. There was likewise an edema of the feet and legs. Examination of urine was negative. She would take to bed for weeks at a time. In January, 1905, her long-lost appetite reappeared and with an increased voraciousness, mostly confined to cereals and milk. The quantities consumed were simply enormous. I have watched her eat for two hours at a stretch, actually shoveling in the food. To-day she again weighs 245 pounds, an increase of 110 pounds in six months, with every prospect of a still further increase in weight, I trust not in appetite. I am daily looking for a "tack" in the opposite direction. Her mind remains clear.

DICEPHALOUS MONSTER.

W. K. WEST, M.D.

CALUMET, MICH.

I wish to record the following case of dicephalus, and the facts bearing on its birth:

The mother was American, aged 28, and a primipara. Her family history was negative. She had several sisters—all married. There have been no other multiple nor abnormal births in the family.

History.—The patient is a pale, slight woman, 5 feet tall, weight 125 pounds. She has always enjoyed fairly good health until this pregnancy, no history of syphilis. She first felt fetal movements in December, 1904. January 2, following, she was taken with a severe attack of the grippe of the gastroenteric form. Vomiting and diarrhea persisted for several weeks, and she was able to take but little nourishment. This was further complicated in the second week by a thrombosis of the left femoral vein. She suffered much pain in the leg, which became very much enlarged from the groin to the foot. The urine showed a trace of albumin, but no casts. The albumin cleared up in a few days, and the urine remained normal. A blood count was made January 27: Reds 3,160,000; whites, 12,000; hemoglobin 60 per cent. She was confined to bed seven weeks and her strength was only partially regained at the time of her labor.

Labor began suddenly on the evening of March 7, and when I was called a few hours later, it was well advanced, with pains frequent and strong. Her temperature and pulse were normal. The fetus was living and active. An examination showed the presentation to be a breech, with one leg well down in the vagina. A diagnosis of the condition was not made until the monster was partly delivered. One head could be felt through the abdominal wall, but on account of the position of the other and the abdominal distention it could not be made out. Under full chloroform anesthesia, the monster was drawn down until the trunk was nearly delivered. Not being able, after considerable effort, to further extract it, I introduced my hand into the uterus and felt the second head and neck. I then carefully introduced a blunt pointed bistoury, and severed the left head, the lowest down. I had no further difficulty in delivering the monster, and the severed head was delivered by pressure over the fundus. The placenta was expressed by the Credé method; hemorrhage was slight. The difficulty in delivery was enhanced by the very small vagina and rigid perineum, and the latter was torn. I removed the patient to the Calumet and Hecla Hospital the following morning and repaired the laceration. Union of the parts was perfect and her convalescence uneventful.

Autopsy.—An autopsy on the monster was made by Drs. Adamson and Sturgeon, who gave me the following notes: Weight, 8 lbs.; length, 40 cm.; sex, male. Measurements of each head, carefully taken, as follows: Left head, antero-posterior, 10 cm.; bi-temporal, 7.75 cm.; occipito-bregma, 8 cm.; occipito-mento, 10.25 cm.. Right head, antero-posterior, 9.25 cm.; bi-temporal, 7.75 cm.; occipito-bregma, 8 cm.; occipito-mento, 10.25 cm.

There were two heads, two necks, two arms, and two legs; two distinct spinal columns throughout, and one sternum. The viscera were as follows: The lungs were single; two hearts of equal size were side by side in one pericardium. There were two stomachs, and the intestinal tract was duplicate to the ileum where the two merged and continued as one to the anus. The liver was apparently single, but there were two gall bladders and two bile ducts, though no connection between them could be demonstrated. The pancreas was duplicated, and there was a single spleen in the abdomen, with a small accessory one in the posterior mediastinum. There were two kidneys considerably larger than normal. The bladder was single, with very thick walls. The genital organs were single. (Fig. 1.)

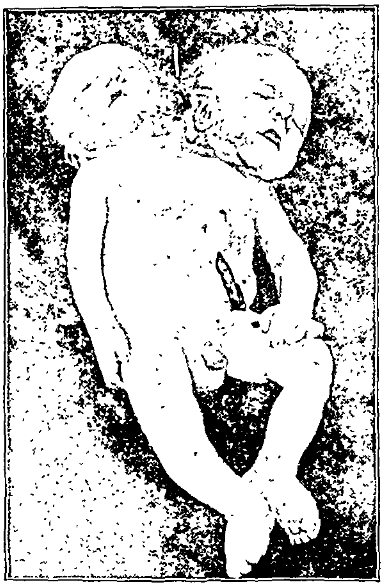

Fig. 1.—This shows the body well proportioned. The left head was sewed on and conceals the neck.

This monster conforms to the species of dicephalus called dicephalus dibrachius dipus. This is the most common form of dicephalus; a number of such cases have been reported, some of them are said to have been adults.

Loyalty to our societies, county, state and national, is among our first duties. Especially is this true of our county societies. In sustaining them we sustain all, for the county society is the unit, just as the town meeting is the unit for our national government.—Williams, in *Jour. Mich. Med. Soc.*

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THE ANNUAL ADDRESSES.

Dr. McMurtry's address, in this issue, reviews the history of the Association, its work in the past and its prospects for the future. What he says about the section work will be approved and his recommendations accepted without question. The advantages of having a permanent secretary of a section are many and obvious, and the honor of holding such an office should be held as greater in proportion to the self-sacrifice and work that it involves. No office is of more importance than that of section secretary in furthering the real scientific work of the session, and the suggestion that the officers of the several sections meet together for the more efficient co-operation in this work needs no indorsement. Its value is sufficiently evident from past experience. The work of organization which has been going on in the last four years is well brought out in the address. The possibilities of this work, he says, are stupendous, and it is as yet only begun, provided that the professional spirit and loyalty to our higher aims which it has brought in evidence are kept alive. It is only by organization that the profession can command the influence and consideration that is its rightful due and which it has often too much neglected in the past. In this connection may be mentioned the timely remarks contained in the address on the subject of medical legislation. The medical profession has not heretofore always recognized its own strength. With a proper organization using its power as it should and backed by an educated public sentiment which we can produce, almost everything in human power is possible to our united profession. The remarks on medical education are to the point. The good work that has been and is being done is not overlooked. What the reforms in medical education owe to the influence of the Association can never perhaps be fully summed up. It is one thing to remember that if any one man's work is to be specially noted in this reform it is that of the founder, or, as he has been called, the father of the Association, who passed from us last year. Dr. McMurtry's remarks on the work of the Council on Pharmacy and Chemistry call perhaps for no special comment here. They will be generally accepted without question as the only correct professional view of the subject. The work is only in its incipiency, but what is being done is, we trust, such as will insure the cordial appreciation and co-operation of the medical profession. We believe it meets one of the greatest needs of the present day. The readers of the address will find subject for thoughtful consideration in every paragraph.

The address on Medicine by Dr. Stockton is a suggestive discussion of some of the problems of a condition that, with the advances of medicine, is becoming more common and perhaps is yet too little regarded. If old age is an evil or a useless period of human life, one way to counteract the evil would be naturally to postpone it by lengthening out the period of full maturity. This, it may be, will be one of the chief tasks to which medical science will devote itself in the near future. While there is so much talk about the possibilities of lengthening human life, one recent enthusiast going so far as almost to prophesy immortality, we certainly would do well to try to insure that this lengthened existence should be tolerable, even if not fully profitable, to the individual and his associates. We certainly do not want a struldbrug element in our population. Dr. Stockton's suggestion of a pedigree, guided limitation as to marriage, his positive expression of opinion as to the non-transmission of acquired characters and his criticism of the individualistic tendencies in our modern civilization may not be considered as altogether practicable or acceptable by every one, but they are certainly proper food for thought. What he says in regard to the preservation of mature vigor by attention to such conditions of correct nutrition as dental hygiene, by the preservation of useful eyesight, and the prevention of intestinal autointoxication as a cause of arterial disease, are useful, and should be fruitful suggestions. Decay seems to be in the order of nature, but if we can amend that order to any great extent without deranging the necessary balance it is an object well worth our efforts.

Dr. Warren's address is a thoroughly scientific contribution that should go far toward clearing up the confusion which he shows still exists in our ideas in regard to a very important class of morbid growths. A correct arrangement of our knowledge is necessary for a perfect understanding of facts, and a confused and over-redundant nomenclature is the expression of a confusion of ideas and a serious drawback in the acquisition of knowledge. Dr. Warren has, therefore, done a real service to the profession and to the vast number of sufferers from non-malignant tumors of the breast. His address can be profitably read by physicians, as well as surgeons. It is one of the clearest and best statements of the subject that has appeared.

The Oration on State Medicine shows a state of affairs very creditable at least to American medical science of the last few years. While we have always had more or less opportunity for the study of exotic tropical disorders, Dr. Blumer points out that we have a special interest in such diseases owing to the tropical and subtropical climates included within the limits of the United States, apart from its outlying possessions. That we have not neglected the opportunities afforded us within the last few years is made by him very apparent. The discovery of the prevalence of uncinariasis in the southern section of our country, the conquest of yellow fever in Cuba, the recent researches on dysentery and its cause, the studies that have cleared up some of the questions of malaria in which American science has taken part, and the active research which is now being carried on are certainly highly creditable to American physicians. As he says, the acquisition of tropical possessions by the United States has had a remarkably stimulating effect on American medicine and has led to valuable work, some of it of the very first rank. Dr. Blumer has well brought out the facts, and we trust that what he has said will be a still further stimulus to active and useful effort.

THE OCCURRENCE OF PNEUMOCOCCI IN SALIVA OF "HEALTHY PERSONS.

Pneumococci are said to occur in the saliva of about 20 per cent. of normal individuals. Recently this question has been gone over again and the results obtained appear very interesting.[1] Frost and his co-workers, following the usual method hitherto in vogue, determined the presence of pneumococci by means of inoculations of rabbits. In this way they found the organism 18 times—36 per cent.—in the saliva of 50 different individuals. They also found that the frequency with which the germ occurs in saliva varies with the season of the year: 23 per cent. of the salivas examined in the fall giving positive results, 43 per cent. in the winter, and 50 per cent. in the spring. The pneumococcus also appeared more frequently in the saliva of the individuals in this series who worked indoors than in those working outdoors.

It is very desirable that work of this nature be complemented by work of a different character. In the first place, the occurrence of pneumococci *on the tonsils* should be studied. It may be that the germs are present more frequently here than in the mouth, which is constantly washed out by saliva, whereas the tonsillar crypts contain many recesses in which streptococci, for instance, are able to exist. In a preliminary communication, G. F. Ruediger[2] notes the occurrence of pneumococci in larger numbers than streptococci on the tonsils in cases of scarlet fever, measles and tonsillitis. His cases are as yet too few, however, to permit any general conclusions.

Then again, methods of demonstration should be used other than the inoculation of rabbits. Manifestly, this method will fail in cases where pneumococci, devoid of virulence for rabbits, are present. Fortunately, we have recently come into possession of an elegant and convenient method for this purpose, namely, the blood-agar plate method of Schottmüller. These plates are made by adding from eight to ten drops of defibrinated rabbit or human blood to each tube of melted glucose agar—about 5 c.c—cooled to 45 degrees C. The streptococci grow as small, grayish colonies, surrounded by clear zones due to laking of the red corpuscles, while pneumococci give somewhat larger colonies, surrounded by an opaque area with a greenish tinge. On account of the characteristic appearance of the pneumococcus colonies on blood agar it does seem reasonable to expect that this method will prove of service in studying the presence of pneumococci in the saliva just as well as on the tonsils. The percentage of persons shown to harbor pneumococci by the blood-agar method might differ materially from that obtained by the more cumbersome and expensive method of inoculating saliva into rabbits, because, in the first instance, the variable faculty of rabbit virulence does not cut any figure so far as demonstrating the presence of pneumococci is concerned, and it may be said that it is as yet doubtful whether rabbit virulence on the part of a pneumococcus necessarily means virulence for human beings.

Consequently, it is desirable to know to what extent pneumococci in general are present in the human mouth and throat. When an adequate basis of facts bearing on this question is accumulated, then the more difficult problem of determining the pathogenic potentialities for man of the pneumococci normally present can be attacked in various ways. Undoubtedly, the various investigations placed on foot by the New York Pneumonia Commission will give us information concerning the points mentioned.

OPEN AIR TREATMENT OF SURGICAL TUBERCULOSIS.

Notwithstanding all the time and attention that have been devoted to the development of the surgery of tuberculous affections, there is probably no other disease with regard to which modern surgeons feel less satisfied. No matter how carefully operations are done, many of them are followed by long-continued suppuration that drains away the vitality of the patient and lessens the hope of ultimate recovery. Often the lesions of surgical tuberculosis occur in children who are least able to withstand this drain on their vitality. Then, too, even under the most favorable conditions serious deformity may occur, and the best results secured by the knife do not compare at all with those obtained by Nature's more conservative method. Unfortunately, under ordinary circumstances, Nature takes so long for the cure of serious tuberculous lesions that confinement, particularly in the hospital, often undermines the general health and not infrequently encourages metastasis of the disease to internal organs.

Physicians and surgeons would be glad to welcome a method of treatment that would obviate these disadvantages, and it seems that it is at hand. Last year the Society for the Improvement of the Condition of the Poor in New York City decided that it could do nothing better than to improve the conditions of living for the children suffering from various forms of surgical tuberculosis in the orthopedic hospitals. Any one familiar with the orthopedic wards of city hospitals knows how pale and delicate and languid the children look and how much they seem to need the outdoor air which their condition apparently prevents them from having. About fifty of the most needy of these children were sent to a seaside resort not far from New York City to live in tents during last summer. The result was almost magical. Children who had been pale and anemic, with capricious appetites and consequent loss of weight, began to eat heartily almost at once; they took on the healthy color that children should have, and very soon this improvement in general health was followed by improvement in tuberculous lesions.

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[1] Frost, Divine and Reineking. Jour. of Infectious Dis., Supplement No. 1, 1905, p. 298.

[2] Trans. Chicago Path. Soc., 1905, vi, p. 299.

In some cases, sinuses that had been open for years began to heal, and experience since has shown the healing to be lasting. At first, there was considerable hesitation as to whether children suffering with open tuberculous lesions should be allowed to bathe freely in salt water and to wade in the sand, since it was feared that these might prove irritant, but sand and salt, far from proving injurious, seemed only to arouse dormant pathologic tissues into an activity that soon caused healthy, enduring cicatrization. At the end of the summer, the results had been so good that it seemed too bad to send the children back to the city hospitals, and so quarters were obtained for them, and they stayed all winter near the sea. During the whole winter, the windows on one side of the building were kept wide open and, though the temperature was often below forty degrees at night, the children slept much better than they would have done in closed warm rooms. It was noted that the starting pains so common among such patients ceased within a few days after their arrival in the open-air quarters.

New York's experience is by no means first in this line. For many years, French authorities in orthopedics have considered that the best possible way to treat children suffering from surgical tuberculosis is by prolonged residence somewhere along the seashore, especially on the north coast. If surgical treatment is necessary, then it should be done there and not in the crowded wards of a city hospital. In France they have come to realize all the evil significance of the state for which they invented the word hospitalization, and to consider that when long continued it represents of itself a serious complication of any affection, especially in children. In this country, too, there have been some very successful experiences with the open-air treatment of tuberculosis, one of the most striking of which is the series of cases reported by Dr. Halstead of Johns Hopkins at the annual meeting of the National Association for the Study and Prevention of Tuberculosis. Dr. Halstead has seen even large abscesses in Pott's disease, in hip-joint disease and in sacroiliac disease disappear under open-air treatment without any auxiliary remedial measures.

It is not alone for the more serious forms of surgical tuberculosis, however, that this method of treatment recommends itself. In the enlargements of the cervical glands, which so often represent a difficult problem for the physician and surgeon, no method of treatment is so hopeful nor associated with fewer disadvantages than that of fresh air and abundant diet, which has now come to be recognized as the only proper therapeutics of pulmonary tuberculosis. According to reports from many quarters, even large masses of cervical glands almost invariably disappear in a few months after the patient begins to live in the open air. This is true not only for the hard, enlarged glands, but also for those in which there is already some tendency to softening and for which the indication might seem to be the evacuation of the contained material. It is only to be expected, however, that if large tuberculous abscesses in the hip and other joints will disappear with improvement of the general condition, then surely small abscesses of the cervical glands may be treated with even more confidence in the same way. In a word, there appears to be opening up a new and very promising field for the treatment of a disease that has hitherto been one of the opprobria of modern medicine.

REINFORCEMENTS IN THE PURE FOOD CRUSADE.

In amplification of its support of the pure-food movement, *Collier's*, in its issue of July 8, throws down the gauntlet to the patent medicine manufacturers. Its editor, Mr. Norman Hapgood, contributes a leading article, "Criminal Newspaper Alliances with Fraud and Poison," and formally announces the engagement of a well-known investigator and writer to expose the methods of manufacture and sale of nostrums and the results of their use by the public. "Probably his first topic will be peruna, that hypocritical cocktail in disguise, so popular with many old ladies." And this reminds us that a recent Chicago newspaper presented the portrait of an elderly woman physician of Buffalo, graduate of a reputable medical school, who contributed a glowing endorsement of peruna. On inquiry, she wrote that the testimonial was genuine and that she had a warm regard for this "hypocritical cocktail in disguise."

Every physician who has not read this issue of *Collier's* should do so, and then should keep it on his waiting-room table for some months, along with the subsequent issues. The *Ladies' Home Journal* was among the first of lay publications to join in the crusade against the nostrums, and no doubt its influence had much to do with bringing the W. C. T. U. to see the inconsistency of endorsing alcoholic nostrums while advocating total abstinence. Mr. Hapgood's article, however, is the most powerful lay contribution to the subject that has yet appeared. In part, it occupies the double page in the middle of *Collier's,* surrounded by a border made up of photographic reproductions of nostrum advertisements cut from leading newspapers. Along with those from some of the "yellow" papers are unpleasant clippings from such moral educators as the New York *Times, Sun,* and *Herald,* the Boston *Transcript* and *Globe,* the Philadelphia *North American,* and the Springfield *Republican.* It is a graphic condemnation of the daily press, and thus far no writer has so keenly exposed the meretricious share of the newspaper in the deadly nostrum traffic. "It sounds high-minded for journalism to bark ferociously against the reign of graft in politics or in high finance, but it can practice a little real reform, if it chooses, by canceling some of the most profitable results of its own limberness of conscience. It hides behind the separation of editorial and business offices, even as members of a corporation hide behind the fictitious entity which they compose. Reform would have greater permanence and value if it sometimes began at home. Hypocrisy is no foundation for spiritual improvement. Newspapers will more successfully reform the world when they have turned against those species of graft which are of peculiar profit to themselves."

Collier's pledges itself to receive no more patent-medicine advertisements, and also to do all it can "to make the public a less easy mark." This trenchant method, supported and maintained, will, with the active co-operation of the medical profession, soon do much toward developing the embryonic journalistic conscience in regard to nostrums. Bryan and Tom Watson are shown guilty, and an almost unbelievable quotation is made from the *Canner and Dried Fruit Packer,* in which packers are urged to withdraw advertising from *Collier's* and publications that advocate the pure-food measure, so that open intimidation is added to the weapons of "fraud and poison."

Lo! these many years we physicians have tried to teach the public that nostrums are harmful. Despite the fact that the use of nostrums tends to increase our professional work, our opposition to the nostrum traffic has always been attributed to jealousy. Now that influential lay journals have espoused our cause, hope revives that the public is to receive a great enlightenment and that the nostrum trade has seen its most profitable day.

GONORRHEAL ARTHRITIS.

In the gradual breaking up of the significance of the word rheumatism which used to prove so satisfactory a designation for so many heterogeneous affections, there is nothing of more interest than the prominent place which is to be assumed among its successors by gonorrheal arthritis. The French have long employed for it the term urethral arthritis, because they consider that there may be affections of the urethra, some of them really secondary complications of gonorrhea, but due to other micro-organisms besides the gonococcus, that may produce metastases to the joints with consequent inflammatory effusion and the typical picture of an arthritis. The French are prone as a nation to be more suspicious of the possibility of venereal complications in apparently innocent affections and are not entirely assured that an arthritis in a particular case may not be of urethral origin unless they are able to determine with certainty that there is, to use their own expressive phrase, no immediate urethral past.

In the reaction that has set in toward ascribing the etiology of many hitherto so-called rheumatic joint affections to the gonococcus, as is usually the case in any new train of thought in medicine, there is a likelihood of exaggeration. There can be no doubt, however, that the gonococcus is responsible for many more joint affections than has been imagined hitherto. It has been stated so often as to be almost accepted as a rule of diagnosis that when the small joints are affected by an inflammatory process, to the exclusion of the larger joints, the affection is very likely to prove to be arthritis deformans rather than any other form of rheumatic ailment. If in conjunction with the small joints, there is an affection of the joints of the cervical vertebræ or of the temporomaxillary joint, then the diagnosis of arthritis deformans is usually supposed to be certain. In some recently reported cases, however, patients suffering from a urethral discharge that had become much less abundant shortly before, have developed symptoms only in the smaller joints and in either the temporomaxillary or in the cervical spinal joints, and the diagnosis has seemed to be without any doubt gonorrheal rather than any other form of arthritis.

On the other hand, it is not an unusual thing for gonorrheal arthritis to confine itself to a single large joint. Until recently, indeed, a monoarticular affection has been considered to be especially suspicious in the matter of urethral origin. Combinations of the large and small joints are not, however, uncommon and gonorrhea may be said to produce all the different combinations of joint affections that were formerly attributed only to acute articular rheumatism. Even so characteristic a picture as that of the redness, swelling and intense painfulness resultant on an arthritis at the base of the great toe, which is usually supposed to be pathognomonic of gout, has been known to develop just after the cessation of a urethral discharge and under circumstances that apparently left no doubt as to the gonorrheal etiology of the metatarsophalangeal arthritis. In a word, any form of arthritis may be due to this micro-organism.

Unfortunately, the prognosis of gonorrheal arthritis is not nearly so favorable as that of acute articular rheumatism and its symptoms do not yield to the ordinary rheumatic remedies. It is much more liable, also, to have serious and even fatal complications because the gonococcus may find a resting place on the heart valves or produce a virulent meningitis. Hence the necessity for exact diagnosis as soon as possible in order that the more serious character of the affection may be recognized early, that measures may be adopted to prevent the migration of the gonococcus from serous membranes which it already occupies, to others where it may produce serious and probably fatal results.

TO EXAMINE A BOARD AS TO ITS SANITY.

The individual who does not correlate his knowledge with his feelings, who sees snakes when there are no snakes, who hears voices when there are no voices, is taken in charge to be examined as to his sanity. A similar procedure may be necessary to determine whether or not a corporation or a board to which is delegated some public duties is acting in accord with ordinary common sense. This variety of impeachment has a charming naiveté. It was suggested by Homer Folks, secretary of the State Charities Aid Association of New York, speaking before the New York Summer School on Philanthropic Work.[1] He referred to some boards whose official acts may be reviewed by higher powers, and suggested the advisability of such authority in the case of many politically managed bodies which mismanage many hospital, philanthropic and asylum matters. The present tendency is to hold the officers of a corporation individually responsible for such acts of the corporation as are under their respective supervision. But when—as in the recent much-criticised ruling concerning the Santa Fé rates—responsible persons are, by some alleged judicial action, relieved of responsibility, the legitimate procedure is to treat the corporation as a person, declare it insane and suspend its functions and compel reformation.

CHOOSING OUR IMMIGRANTS.

Marked changes in our immigration laws are urged by Robert D. Ward.[2] He recommends that the present laws should be more completely enforced, that the head-tax should be raised, and that illiteracy should be more carefully debarred, but we are particularly interested in his further recommendation that immigrants of poor physique should be debarred. Prospective immigrants of unsound mind are now excluded, so too are those of such unsound morals as to be classed as criminals. The next step should be to debar those of poor physique. This term describes immigrants who possess bodies not only ill-adapted to the work necessary to earn bread, but also poorly able to withstand the onslaught of disease. It includes immigrants who are undersized, poorly developed, and with feeble heart action. Such persons are physically degenerate, and as such are not only likely to become undesirable citizens, but are also very likely to transmit their undesirable qualities to their offspring. The average physique of the present American population is not such that we want it to deteriorate; on the contrary, the average might be raised if we selected our immigrants with reference to good physique instead of allowing our steamship companies their present freedom in unloading undesirable foreigners on our shores.

STREAM INFECTION BY CAMPERS.

At a recent meeting of the California State Board of Health it was proposed to forbid camping in the mountains near the sources of streams. It was claimed that it is a common practice for convalescents from infectious disorders, like typhoid, to seek outdoor life for a time, and that they cause infection of the streams. While this proposed restriction was not immediately favorably accepted by the board, it is fully as reasonable as many other sanitary propositions the enforcement of which is attempted. Investigations should be made to learn to what extent the tendency toward rapid destruction of the micro-organisms because of the agitation of the water in mountain streams is offset by the rapid flow, which, of course, will more quickly carry the infective matter to points lower down on the stream. The matter is worth serious consideration.

SPONTANEOUS GENERATION.

The repeated experiments of an English investigator who is said to have produced something like living forms by the action of radium on sterilized bouillon do not appear to us to deserve the importance attributed to them in the public press and elsewhere. It is unfortunate in some respects for the claim that spontaneous generation is possible that all experiments in this line deserving of any consideration whatever are made with already organized matter. The present case is no exception. It is not claimed, moreover, that life has been actually produced, but only that something resembling it or suggesting it resulted in the course of experiments. Radium is a powerful agent in many ways, and it is not remarkable that it can cause changes in even dead organized matter that may at first sight or in some ways simulate life.

THE PORTLAND SESSION.

The fifty-sixth annual session of the American Medical Association has been held during the past week at Portland, Oregon. The distance of the meeting place from the office of publication and the fact that The Journal goes to press on Wednesday prevent the publication of many details of the session in this issue. We learn, however, by telegraph some particulars from the first two days of the session. The weather was perfect, the sky was clear, and the temperature very comfortable. The attendance proved to be a large one, considering the distance of the meeting place from the centers of membership. On Monday and Tuesday 1,416 members had registered, and, doubtless, 200 or 300 more might be expected to register during the remainder of the session. At the moment of writing, therefore, it is safe for us to predict a registration of 1,600 or 1,700. It will be recalled that the total attendance for each of the last five years has been as follows: 2,019 at Atlantic City in 1900; 1,806 at St. Paul in 1901; 1,425 at Saratoga in 1902; 1,993 at New Orleans in 1903, and 2,890 at Atlantic City in 1904. The real opening of the session was on Monday, July 10, for, as the House of Delegates is the business body of the Association, its first meeting contained the first proceedings of the Association. The House of Delegates met at 10 a. m. Monday, July 10, and prepared for business. Credentials were attended to, the roll was prepared, various committees were appointed, and then the regular reports were received. First came the report of the Secretary, then the report of the Board of Trustees, and following this were the reports of the committees on medical legislation, Rush monument, Walter Reed memorial fund, and medical education. The first general meeting of the Association was held Tuesday, July 11, at the armory of the Oregon National Guard. On Tuesday afternoon the various sections held their first meetings and commenced the discussion of papers. The session is a success and the attendance is excellent. A full report will be given next week.

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[1] Charities, June 24, 1905, page 853.

[2] Ibid., July 8, 1905, page 306.

Medical News

CALIFORNIA.

Medical College Commencement.—The annual commencement exercises of the College of Physicians and Surgeons of Los Angeles were held in that city June 29. There were six graduates. The doctorate address was delivered by the Rev. George A. Gates, D.D., president of Pomona College.

Medical Society Refused Articles of Incorporation.—Several eclectic physicians of California who applied for articles of incorporation for a society entitled "The Medical Society of the State of California" have been refused because another society of that name is already in existence, incorporated in 1870. The state's attorney is reported as saying that the first incorporations of all three state societies were not legal. Accordingly the state homeopathic and eclectic societies have applied for new articles to correct the error, but it is not stated that the regular society has done so.

CONNECTICUT.

Hospital News.—The new St. Vincent's Hospital at Bridgeport was formally opened June 28.——The Danbury Hospital has been voted an appropriation of $5,000 by the senate.——A bill appropriating $420,000 for the Norwich Hospital for the Insane has been signed by Governor Roberts.——The remodeled Meriden Hospital was reopened June 28.

DISTRICT OF COLUMBIA.

Washington.

Tablet to De Schweinitz.—A handsome bronze tablet has been erected in the main hall of the George Washington University to the memory of Dr. E. A. de Schweinitz. The tablet is 2x3 feet in size, with the following inscription:

> Emil A. de Schweinitz, A.B., Ph.D., M.D. Born Jan. 18, 1864. Died Feb. 15, 1904. Professor of Chemistry and Toxicology, 1892-1904. Dean of the Department of Medicine, 1897-1904. In recognition of his services to Medicine and to the Cause of Medical Education, this tablet is affectionately erected by the Medical and Dental Classes of 1904, 1905, 1906, 1907, and by his Colleagues of the Medical and Dental Faculties.

ILLINOIS.

Chicago.

Medical Colleges.—The commencement exercises of Jenner Medical College were held in Handel Hall, June 26. There were 15 graduates. The doctorate address was delivered by Dr. Stuart Johnstone..

Hospital Cornerstone Laid.—The *cornerstone* of the new Michael Reese Hospital. at Groveland Avenue and Twenty-ninth Street. was laid July 4. The new structure will cost over $500,000, and it is announced that it will be made one of the best appointed hospitals in the world.

Physicians in Wreck.—Drs. Frank Billings, Arthur Dean Bevan, W. A. Pusey, L. L. McArthur, of Chicago; Dr. Meecher of Portage, Wis., with some friends, had a narrow escape from death while traveling in a private car en route to Portland. The accident occurred near Willston, N. D., early on the morning of July 6. The train was the Great Northern flyer. Seven cars were burned and about thirty persons were injured, one seriously.

Health Statistics.—The total number of deaths in Chicago for the week ending July 8 was 420; of these 239 were males and 181 females. Tuberculosis caused 58 deaths, the largest number from any one cause. Causes of death were reported as follows: Bright's disease, 45; acute intestinal diseases, 38; heart diseases, 39; pneumonia and "cancer," 26 each; nervous diseases, 22; violence other than suicide, 33; apoplexy, 5; bronchitis, 4; convulsions, 7; diphtheria, 2; measles, 3; scarlet fever, 1; smallpox, 4; suicide, 7; typhoid fever, 6; unclassified, 85.

MARYLAND.

Baltimore.

Personal.—Dr. Harry F. Reid has gone abroad.——Dr. S. J. Ulman has returned from Europe.——Dr. Ridgley B. Warfield has gone to Europe for two months.——Dr. Christian Deetjen will spend some months in Europe studying Finsen light, radium and *x*-rays.——Dr. H. Warren Buckler is at the White Sulphur (Va.) Springs as resident physician for the summer.——Dr. Samuel Theobold has taken a cottage at Ocean City, Md., for the summer.——Dr. James Homer Wright (Univ. of Md. 1892), who has made valuable researches in the bacteriology of actinomycosis and aleppo boil in the last year, received the B.S. degree at the recent commencement of Harvard University.

MASSACHUSETTS.

Berkshire District Medical Society.—At the monthly meeting of this society, held at Pittsfield, June 29, Dr. I. S. F. Dodd of that city was elected secretary in place of the late Dr. L. C. Swift, who recently died from meningitis.

Hospital Sued.—Mrs. C. R. Putnam has attached the property of the Massachusetts Homeopathic Hospital, Boston, in a suit for $50,000. She alleges that because of lack of proper treatment while in the hospital she contracted blood poisoning and that her child died.

MISSOURI.

St. Louis.

Personal.—Dr. A. C. Bernays sailed for Europe July 6.

Will Add to Asylum.—A new wing, costing $300,000, will be built on the City Insane Asylum in the fall.

Proposed College Merger.—The Barnes University has offered its buildings and medical school to the State University as its medical department. The offer means donation of buildings in St. Louis to the state.

NEW YORK.

To Avoid Tetanus.—The State Board of Health issued a bulletin on July 1, calling attention to the fact that tetanus frequently followed Fourth of July injuries and urging all physicians who treated persons injured in this way to administer preventive doses of tetanus antitoxin at the time the wounds are dressed. The department believed that many cases of tetanus were prevented last year by this means. Generous supplies of the antitoxin produced in the department laboratory were sent free to local health officers in all the large cities and villages and in many towns.

Resignation of Dr. Pryor.—Announcement is made of the resignation of Dr. John H. Pryor from the superintendency of the New York State Hospital for Incipient Tuberculosis. Dr. John H. Pryor, by his indefatigable efforts in season and out of season to found a hospital by state aid in the Adirondacks for incipient tuberculosis cases, had the confidence of the entire medical body of the Empire state in his worthy efforts. In the short period of his duties as superintendent of the hospital he accomplished much good. Dr. Pryor resigned because his hands were so tied by red tape that it was impossible for him to administer the affairs of the institution with justice to the patients, to the public and to himself. In his words, the reason for his resignation are: "Too many shackles, too much red tape, too many bosses and too much humbug in the administration of civil service affairs in New York state."

New York City.

More Water for Queens.—Work has been begun on important extensions to the city water supply systems for Long Island City and Flushing. The pumping station at Lake Kissena will be connected with the Flushing standpipe.

Heat Prostrations.—The extreme heat of the first few days of this month resulted in a large number of heat prostrations and there were many calls for hospital aid. The new method of ice baths for heat prostrations was put to frequent use.

Floating Hospital.—The *Helen C. Juilliard*, the hospital ship of St. John's Guild, has begun to make daily cruises. Admission tickets are distributed at 1,500 places in the city, including hospitals, dispensaries, diet kitchens and missions.

The Subway Air.—Since the warm weather has made the air of the subway almost intolerable, many suggestions for ventilation have been offered, and two fans have been installed as an experiment. Thus far they have given favorable results.

Home for Nurses.—A plot of ground has been purchased adjoining the Flushing Hospital, Brooklyn, for the sum of $2,500, on which a home for nurses will be erected. Two donors, whose names are withheld, have contributed $1,000 each toward the building expenses.

Independence Day Accidents.—There were only three deaths in New York City as the direct result of Fourth of July celebrations, but more than 200 persons were injured. Of these 176 were sent to hospitals, and about a dozen of them are expected to die as a result of their injuries.

Unlicensed Practitioner Arrested.—Eugene Christian was arrested by the New York County Medical Society on a charge of practicing medicine without proper credentials. He has been advertising in periodicals throughout the country and claimed to cure many ills by putting his patients on a "proteid nut food" which he sold them.

Contagious Diseases.—There were reported to the sanitary bureau for the week ending July 1, 632 cases of measles, with 13 deaths; 418 cases of tuberculosis, with 145 deaths; 235 cases of diphtheria and croup, with 20 deaths; 83 cases of scarlet fever, with 4 deaths; 47 cases of typhoid fever, with 9 deaths; 35 cases of cerebrospinal meningitis, with 22 deaths; 109 cases of varicella and 1 case of smallpox.

City in Good Health.—The death rate in New York City for the first six months of this year was considerably lower than for the corresponding period of 1904. It was nearly as low as the death rate in 1903. For the past six months the death rate was 19.75; for 1904, 22.68, and for 1903, 19.14. For the week ending July 1 the death rate was 18.55, as compared with 21.63 for the same week of 1904.

Personal.—Dr. and Mrs. Charles H. May sailed for Europe on the *Kaiser Wilhelm der Grosse* on July 3.——Dr. and Mrs. F. W. Chamberlain sailed on the *Noordam* for Rotterdam on July 5.——Dr. J. G. Baldwin sailed for Bremen on the *Bremen*, July 6.——Dr. John S. Billings sailed for Queenstown on the *Oceanic* on July 5.——Dr. and Mrs. A. Palmer Dudley sailed for Queenstown on the *Oceanic* on July 5.——Dr. H. P. Loomis sailed for Queenstown on the *Oceanic* on July 5.——Dr. George W. Jacoby sailed on the *Bluecher* for Hamburg on July 6.——Dr. and Mrs. William S. Bull sailed for the Mediterranean on the *Princess Irene* on July 8.

Hospital Boat Near Completion.—The health department will soon possess the most novel craft afloat in the *Claudine*, which will be ready for launching within a few weeks. It will have eight large wards and is also equipped as a fire-fighter and a water boat with tank capacity enough to supply the city institutions on all the islands of the Hudson and East rivers. The cost of the boat will be $70,000. All the rooms will be enclosed in steel, so that they can be shut up for disinfection, and the plan is so contrived that there are no ceiling or floor angles in which dust can accumulate. It is expected that the *Claudine* will be able to maintain a speed of 15 knots and she will be held in readiness to go wherever she may be sent to pick up patients.

The National Antiadulteration League.—The articles of incorporation for this league have been signed and officers elected. The league has been at work for many months making analyses of various foodstuffs sold in the city. By experiments they have established that illness would follow the consumption of some of these articles. They intend sending a petition to the health department, asking that the sale of such articles be forbidden, and they are planning to bring proceedings against the corporations which manufacture and adulterate the articles. The daily papers have intimated that this league had accused the health commissioner of neglect of duty in this direction, but these statements have been contradicted at headquarters and the health board is ready to give its support to the work that the league has set out to accomplish.

"Sanitarium" Raided.—The removal of a large wicker basket in an undertaker's wagon from the house of "Dr." L. Gray Blum, who is a fugitive in South America, led to investigations. The house was, according to the sign, occupied by "Drs." Norman Schenck and Orrin B. Kinney, though it appears that the former is only a fictitious person. Dr. Kinney had the death certificate of the woman whose body was removed in the wagon signed by Dr. George A. Morgan. Both men are graduates of the Vermont University. The coroner stated that the woman had died of peritonitis following a criminal operation. When the detectives arrived to make arrests the house was deserted, patients and attendants having escaped by way of the roof. That the house was a hospital was shown by the drugs, surgical appliances, etc. The coroner held Morgan without bail.

OHIO.

Physician Injured.—On June 26 Dr. J. B. Owsley of Jacksonboro, was slightly injured by being thrown from his buggy.

Physician Arrested for Arson.—Dr. Elmer Bechtol of Lodi has been arrested, charged with setting fire, thirteen years before, to a drug store which he conducted in North Baltimore.

PENNSYLVANIA.

Donation to York Hospital.—It is announced that Mr. and Mrs. A. B. Farquhar have donated $1,000 to the York Hospital. It will be applied to the remodeling of the nurses' home.

Fire in Hospital.—A fire broke out in the storeroom of the Presbyterian Hospital, Allegheny, July 3. Nearly all the patients were removed to places of safety. The blaze, however, was extinguished in a short time and the patients were returned to the building.

Philadelphia.

Bequests.—From the balance of the annuity fund of the estate of Anna H. Wilstach, the hospital of the Protestant Episcopal church receives $6,624.42; the Protestant Episcopal City Mission, for the use of the Home for Consumptives, $6,624.43; the Pennsylvania Hospital, $6,000, and the Howard Hospital, $624.43.

Reading Relief Report.—The statement of the Philadelphia & Reading Relief Association for the month of May shows an expenditure of $19,562.20, of which $9,300 was paid for deaths and $10,262.20 for disability. The number of deaths was 18, 4 of which were accidental and 14 due to natural causes; 1,077 new cases were reported.

Health Report.—During the week ending July 8 there was reported to the Health Bureau a total of 460 deaths, being an increase of 25 over those of last week, and an increase of 22 over the corresponding week of last year. The increase was largely due to the mortality among infants. This alone numbered 110. The principal causes of death were: Typhoid fever, 6; diphtheria, 7; pulmonary tuberculosis, 57; cancer, 22; apoplexy, 21; heart disease, 33; acute respiratory disease, 19; enteritis (under 2 years), 94; enteritis (2 years and over), 7; Bright's disease, 35; accidental injuries, 10; marasmus, 10. There were 167 cases of contagious disease reported, with 15 deaths, as compared with 158 cases and 25 deaths for the previous week.

Personal.—Dr. and Mrs. S. Lewis Zeigler sailed for Europe June 29.——Dr. J. Louis Borsch sailed on the *Kaiser Wilhelm der Grosse* for Europe, July 4.——Dr. and Mrs. J. Oram Ring sailed on the *Bremen* from New York for a three months trip in Europe, July 6.——Dr. Charles P. Grayson sailed for Naples July 5, and will remain abroad until September.——Dr. Mihran K. Kassabian sailed for Europe July 8. Dr. Kassabian has been appointed delegate to represent the American Medical Association, the American Electrotherapeutic Association and the American Roentgen Ray Society at the International Congress of Radiology and Ionization, which will convene in Liege, Belgium, September 12. He also is a representative of the American Electrotherapeutic Association to the International Congress of Physiotherapy, which will meet at the same place, August 12. He will return home in September.

Hospital Reports for June.—The Presbyterian Hospital admitted 200 patients to the wards and treated 1,955 in the various dispensaries. The Charity Hospital treated 628 cases and compounded 756 prescriptions. The Medico-Chirurgical treated 244 patients in the wards and 5,973 patients in the different dispensaries. The Germantown Hospital admitted 92 patients during the month and treated 1,350 in the dispensary. The Mount Sinai Hospital admitted 66 to the wards, treated 1,246 new patients in the dispensary and 2,634 old patients; 239 accidents were treated, making a total of 4,118. The Woman's Hospital admitted 111 patients to the house and treated 1,955 patients in the clinics. St. Agnes' Hospital admitted 191 patients to the house, treated 567 new cases in the dispensary and 1,986 old cases. St. Mary's Hospital admitted 142 to the wards, treated 480 new and 1,567 old patients in the dispensary.

Aftermath of the Fourth.—The accidents and deaths resulting from the celebration of the Fourth of July in this city were less than for a number of years. Two deaths, however, were reported, due directly to the use of explosives. Two probably fatal injuries, several serious accidents and a multitude of minor casualties marked the celebration of the day. One 9-year-old child was killed by the accidental discharge of a revolver and the other fatal accident resulted from the patient being killed in a runaway caused by fireworks. One woman was struck in the eye by a stray bullet; one man was shot in the abdomen while exhibiting his revolver to a friend; one boy received a charge of shot in the face. The approximate number of accidents and the causes gathered from the various hospitals are as follows: By fireworks, 108; by cannon, 7; by firearms, 36; by gunpowder, 289; by toy pistols, 90; by runaways caused by explosives, 4; total, 534.

Railroad Physicians Special Inspectors.—Dr. Samuel G. Dixon, commissioner of health of the state, has appointed all the medical examiners of the Pennsylvania Railroad Voluntary Relief Department, and the Philadelphia & Reading Relief Association, to be special medical inspectors in the department of health for these two railroads. These appointments carry with them no salaries from the state, but the co-operation between the health department and the railroads has been shown to be very advantageous in the prompt and effectual handling of cases of contagious diseases that occur on trains, in the car works or in railroad stations. The following is a list of the examiners of the two roads appointed by Dr. Dixon as inspectors: Pennsylvania Railroad—Dr. Samuel W. Latta, Philadelphia, chief; Drs. D. W. Nead, C. J. Roberts, E. C. Town, J. L. Bower, Reading; J. L. Wright, Columbia; W. T. Bishop, York; S. M. Crawford, Harrisburg; A. T. Poffenberger, Sunbury; H. E. Westhaeffer, Williamsport; J. B. Lincoln, Renovo; S. A. Bonaffon, Erie; R. B. Moore, Huntingdon; H. W. Pownall, Tyrone; W. B. Diffenderfer, Altoona; C. F. Hough, Cresson; C. W. Banks, Derry; D. M. Easter, Youngwood; W. K. T. Sahm, Pittsburg; J. B. Hileman, Pitcairn; J. C. Lemmer, Oil City. Reading Railroad—Dr. Caspar Morris, chief; district No. 1, Philadelphia, Drs. F. E. Brister, Francis F. Ferris, Norris S. McDowell; district No. 2, Reading, Drs. Charles A. F. Detweiler, Albert F. Bronson; district No. 3, Pottsville, Dr. Thomas F. Heebner; district No. 4, Tamaqua, Dr. William H. Brothers.

GENERAL.

Yellow Fever and Malaria in Panama.—Consul-General Lee reports that one of the worst phases of the recent outbreak of yellow fever is that two of those attacked are Jamaican negroes, who are considered racially immune from fever. The disease undoubtedly exists in a particularly virulent form. A short time ago one ward at Ancon Hospital was sufficient to contain suspects; now three wards are necessary to accommodate them. Lee states that besides yellow fever, malaria is exceedingly prevalent; as many as thirty cases a day have been admitted to the hospital. He says that all possible precautions are being taken and that the city of Panama is undergoing another complete fumigation. Had not the sanitary authorities already accomplished such valuable and useful work, the yellow fever situation now, at the beginning of the wet season, would be indeed appalling.

CANADA.

Addition to Hospital.—The Western Hospital, Montreal, is erecting two new wings for the accommodation of 100 and 150 patients, respectively. When completed the hospital will have accommodation for 500 patients.

Personal.—Dr. A. B. MacCallum, professor of physiology in the University of Toronto, has gone to attend the meeting of the British Association in South Africa.——Dr. Walter Langrill, formerly medical health officer of Hamilton, Ont., has been appointed medical superintendent of the Hamilton General Hospital, while Dr. Roberts of Hamilton has been appointed to the position of medical health officer.

Royal Jubilee Hospital, Victoria, B. C.—The annual meeting of this institution was held June 29, when the resident medical officer presented the annual medical report. This showed that during the last hospital year 1,058 patients had been treated in the institution, ten more than for the previous year. The total collective days' stay was 21,307. The cost of maintenance during the year was $36,294.10, a cost per patient per day of $1.70.

Tuberculosis Sanitoria.—A sanatorium for consumptives is to be established at Holland, Man.——British Columbia has established a sanatorium for consumptives at Savona, B. C. For the present it is but a canvas settlement.——The government is to be asked for a substantial grant toward the erection of sanitaria for consumptives in different parts of the dominion.——Mr. McCormack, a prominent manufacturer of London, Ont., has given the National Sanitarium Association $3,500 for the erection of another cottage at Muskoka.

Manitoba Medical College.—The calendar of the Manitoba Medical College now going to press contains three important announcements. First, there is a description of the new building being erected contiguous to the Winnipeg General Hospital, toward the completion of which this season every effort will be made. The five-year course has been adopted, and will come into operation at the next session. The faculty has been reorganized and the following nine practitioners of Winnipeg added thereto: Drs. A. J. Douglas, O. Bjornson, G. Heibert, C. C. Field, W. Rogers, H. Mackay, S. J. Elkin, A. J. Burridge and W. Webster.

Ontario Medical Council.—At the annual meeting of the Ontario Medical Council, held in Toronto last week, Dr. Albert A. Macdonald, Toronto, was elected president; Dr. W. H. Moorhouse, London, Ont., vice-president; Hon. Dr. R. A. Pyne, Toronto, registrar; Dr. H. Wilberforce, Aikens, treasurer. The council decided to ask the Ontario Legislature for an amendment to the Ontario Medical Act, which will prevent Eddyites and other so-called faith healers evading the law on technicalities. The council will also ask aid for consumption sanitaria and the eestablishment of a department of public health for the province. The official prosecutor reported that during the past year 52 cases had been dealt with; 24 convictions had been obtained, 9 had left the country, 11 had been dismissed and 6 had not been proceeded with. An amendment was made in the by-law relating to examiners, as follows: No teacher shall be eligible for appointment as examiner in the subject he teaches, but this restriction shall not apply to teachers of anatomy, physiology and chemistry.

The Toronto General Hospital and Its Opponents.—Representatives of the staffs of the hospitals in Toronto, except the General, called a meeting of the profession of Toronto July 6, to discuss the proposed grant of $200,000 by the City Council to the General Hospital. Opposition melted away when once the terms of the proposed grant were explained by Medical Health Officer Charles Sheard; and the meeting, called in opposition, almost unanimously approved of the scheme of a new general hospital for Toronto. It is proposed that all public ward patients shall be for the purposes of clinical instruction by the staff of the medical faculty of the university exclusively, and that all other accommodation in the hospital shall be equally available to all other practitioners of good standing in the province, and that what is to constitute a public ward patient is one who is unable to pay his medical attendant. Another condition of the grant will be that the board of trustees of the new hospital shall be constituted equally by the Ontario Government and the municipality of Toronto. It has not yet been decided whether a branch hospital will be retained in the east end of the city on the present site of the General Hospital. The new hospital will be situated within a very short distance of the medical buildings of the university.

Organization of the Profession in Canada.—A. Laurandeau has an open letter to the physicians in his district, Joliette, Canada, in the last *Bulletin Méd. de Québec*. The local medical society has established a minimal rate of $2 for fees for maternity cases, and he is urging its general adoption throughout the district. Out of the 56 physicians in the dis-

Not Cured by Eddyism.—Dr. Guest, in a recent discussion be-

stated that they will not accept it. He comments that a physician must rate his work, his knowledge and his intelligence very low who is willing to conduct an obstetric case, with the delivery, application of forceps, etc., and expenses of transportation, for the paltry sum of $1.50. He remarks that these excessively low charges actually bring discredit on the profession in the eyes of the patients. A certain lodge practice was offered to him recently, with fees of 25 cents for visits in towns and of $1 in the country. He declined, saying that he could not accept less than the minimal established tariff, and the lodge at once agreed to his terms. He thinks that if others would take a similar stand the results would be far-reaching throughout the country. The practice of making an annual contract with a family is still in vogue in some places in his district. He knows of instances where families of twelve or fifteen members are treated, under forfeit, for $3 or $4 a year, including even the care of obstetric cases. In conclusion, Laurandeau expresses his amazement that in this age of grouping of interests everywhere, physicians are so slow to recognize the benefits that come from organizing. "Open any daily paper," he remarks, "and what unanimity of effort to obtain better pay and less hours of work! We physicians alone seem to be the only ones who voluntarily condemn ourselves to prolong indefinitely our precarious existence. Our processes are perfected, our equipment more expensive, our intelligence better cultivated, we cure our patients better and quicker than ever before. Is it not reasonable that we should fare better than we used to?" "Friendship, co-operation, devoted fraternity will pay in actual dollars and cents, if nothing else."

FOREIGN.

Russian Hospital Ships.—The Japanese have released two of the three Russian hospital ships recently captured. The third is kept on account of some red tape in regard to some rescued English sailors found on board when the ship was taken.

Medical Aspect of Tercentennial of Don Quixote.—By royal decree the addresses at the medical festival meeting at Madrid in honor of the publication of Don Quixote have been collected and published in book form. The medical aspect of Cervantes' writings and the medical history of his day are thus to be perpetuated. The meeting was one of the features of the general celebration of the tercentennial, mentioned in these columns on page 1789 of the last volume.

French Expert Testimony on the Mental Condition of the Princess Louise of Saxe-Coburg.—Entirely opposite to the testimony of the German and Austrian psychiatrists, Krafft-Ebing, Jolly, Obersteiner and others, the French experts testify that they regard the princess as mentally sound and responsible for her acts. The French psychiatrists were Magnan and Dubuisson. Garnier was on the list, but died a few weeks ago. The patient was under their observation for six months.

Campaign Against Cholera in St. Petersburg.—The local board of health has had about $21,000 placed at its disposal for the impending campaign against cholera. Medical students are to be engaged to keep a constant oversight over houses and buildings known to be in an insanitary condition. Each sanitary inspector is to be supplied with $1,000 for the purpose of equipping and maintaining an eating and tea room in his district, and suitable local quarters for isolation are to be provided.

Free Milk Tickets in Berlin.—The German Association for the Reduction of Infant Mortality has instituted a system of tin checks, each stamped 5 pfennige. Physicians are supplied with these checks to any amount, and they are distributed to indigent mothers, who can obtain for three of the tickets a quart of pure milk at any of the substations of the association. The physicians write the name, residence and date on slips furnished with the tickets. The milk is sold generally for 15 pfennige, less than 4 cents a quart.

Declaration of Infectious Diseases in France.—The number of cases declared in 1902 was 39,234, and in 1904, 67,879, but this is far below the actual number of cases of communicable diseases. The Paris *Académie de Médecine* recently called attention to this discrepancy, and urged the stricter enforcement of the laws in this respect. It also passed a resolution calling for more effectual and compulsory disinfection. The uselessness of attempting sterilization was pointed out by some speakers. Simple, effectual disinfection would not be dreaded so much by the families.

Plague in Japan.—According to the report of Assistant Surgeon Moore in *Public Health Reports*, the plague situation in Tokyo shows no tendency toward amelioration, but that on the contrary new cases are occurring and the number of foci of infection is increasing. From April 18 to May 30, 1905, the total number of cases of the disease reported in Tokyo was 8, of which 6 terminated fatally. In addition there have been one or two doubtful cases. On May 29 a plague death occurred in Chika Ken, the prefecture adjoining Tokyo on the east. The victim had resided in the Fukagawa district of Tokyo, where, no doubt, he contracted the infection.

Official Thyroid Treatment.—Wagner von Jauregg is a member of the Austrian Board of Public Health and has been making a systematic inquiry into the cases of cretinism in Austria and supplying thyroid treatment for the apparently curable cases. The thyroid tablets are made in the government laboratories at Vienna, and are given to the school teachers in the various localities. They in turn dole out to the parents every week the number of tablets ordered. Recent inquiry in the Trieste district revealed 100 cretin children, 23 of whom were considered curable and treatment was instituted. The results are proving very satisfactory throughout the country.

Women Physicians in Mohammedan Countries.—The government in the French African colonies is advertising for women who are physicians to open dispensaries for the poor Mohammedan women in the towns. The last *Archives Gén. de Méd.* states that the authorities will supply and equip the dispensaries and supply medicines for distribution, and also pay an indemnity of $500 to $600. Dispensaries conducted by men are shunned by the women, as their religion and customs forbid their appearing before any man but their husbands, and yet the women need medical care and advice more than the men. The authorities have found that even when a woman and her husband are both anxious to have her take advantage of the dispensary they are deterred by fear of the general reprobation of such a step.

The Rothschild Endowment at Vienna.—The will of the late Baron Nathaniel v. Rothschild left $5,000,000 to the city of Vienna to be applied to public hospital service. The will stipulated, however, that the income from the endowment should be applied exclusively to the founding and maintaining of institutions in or near Vienna for curable nervous affections—as the clause states, "for the care and cure of the 'borderland' nervous affections, such as are generally called 'nervenkrankheiten.'" The endowment of beds for such patients in the present hospitals is also provided for. The will further states that the institution or institutions to be founded should be modeled closely on the two sanatoria for similar purposes at Rappersmühle, near Göttingen, and at Zehlendorf, near Berlin. Paralytics, tabetics, cases of incurable epilepsy, the insane, etc., are to be excluded.

Sanitary Conditions in Venezuela.—According to *Public Health Reports*, the health condition of Maracaibo is not very satisfactory. There have been three years of extreme drought. For a year there has been no rain, and as there are no rivers and no wells near the city, the condition of the poorer classes is very trying, as they are obliged to use the water of the lake, which is the germ bed of all stomach and intestinal diseases of the people. Formerly there were winds at night, but they have died away. The heat and calms prevailing are the weather conditions for earthquakes. Unfortunately, yellow fever seems to demand more victims. During the last few months the number of cases among people of the higher classes, who are presumed to have healthy homes and comfort, became alarming. A European is more apt to resist the fever and to recover. The people from the Cordilleras are apt to succumb and to die in the course of a few days.

Fine for a Paris Surgeon.—A damage suit which had been brought against a French surgeon, Dr. J. A. Fort, was mentioned in The Journal, Oct. 15, 1904. The complaint stated that he had left a broken instrument in the patient during an operation. The circumstances of the case were that the olive tip of a fine, flexible sound, with which he was striving to dilate a stricture of the esophagus, was broken off by a sudden spasmodic closure of the stricture. As the gastrointestinal tract tolerates much larger foreign bodies than this, Fort regarded the loss of the smooth bulging tip of the sound as of little importance and said nothing about it. The patient died not long afterward, and nothing was found to indicate that the broken part of the sound had caused the slightest irritation. The Paris court, however, when the case came up in June, imposed a fine of $10 for the surgeon's carelessness in omitting to inform the patient or his physician of the accident.

Organization of the Profession in Germany.—The annual meeting of the *Leipziger Verband*, the association formed in the profession to protect the material interests of the physicians of Germany, was held at Strasburg in June. The proceedings of this and of the thirty-third annual *Aerztetag* immediately following were extremely quiet and harmonious, in marked contrast to the stirring meetings of the last two years, when the colleagues in the encroaching grip of the sickness insurance companies were battling for remuneration on a more equitable basis. The particulars of the organization of the *Leipziger Verband* less than five years ago and of its great and immediate success have been duly chronicled in The Journal. At present, as the *Münch. med. Wochft.* expresses it, the physicians of Germany stand at the triumphant and honorable conclusion of serious economic conflicts. As the result of these struggles their material standing is essentially better than it was before. Their economic organization is firm and tried. The outlook into the future, if not entirely peaceful, is yet more hopeful and kindlier than it has ever been. Even the usual official address of welcome by the governor of the state was marked by kindly, unstinted appreciation of the truth and justice of the demands of the profession, and congratulations at their success. The report of the secretary of the *Leipziger Verband* presented an imposing picture of the ramifications of its work throughout the country and the number of physicians assisted to maintain their modest rights by the powerful aid of the voluntary backing of their colleagues.

LONDON LETTER.

Suffocated by a Cat.

An inquest was held in London recently on a child aged one month, who was put to bed at mid-day by a relative. Half an hour later, when she went into the room, she found the cat lying curled up on the child's face. On removing the cat she found that the child was dead. Medical evidence showed that death was due to suffocation and the opinion was expressed that it was due to gradual deprivation of air. It was not supposed that the cat lay on the child's face, but that it was too close to the child and that its fur prevented the child from breathing. The weight of the cat on the infant's chest probably materially assisted in bringing about a fatal termination. The case shows the danger of allowing children to make bedfellows of animals.

Infants Smothered in Bed.

In 1901 1,538 deaths of infants in England and Wales were due to being smothered in bed, and no fewer than 500 of these occurred in London. In 1903 the figure rose to 1,629, of which 600 occurred in London. Dr. Waldo, the coroner for the city of London, said that in his experience few of the cases were due to drunkenness of the parents, but rather to the ignorance or carelessness of the mothers, who did not realize the need of cots. Mr. Butcher, a Lancashire coroner, says that it is probably owing to affection that parents wish to have children in bed with them. He has laid it down as a rule that whenever children die from this cause he will order a postmortem examination. By this means he hopes to stop the practice.

Infant Murders by Children.

From time to time the country is shocked by the murder of infants by very young children. A recent case which occurred at the Liverpool Working Hospital, shows the danger of leaving infants alone with young children. An infant aged nine months was left asleep in a convalescent ward which contained a number of older children. The nurse was absent for a few minutes and on returning found the infant choking with a piece of bread in her mouth and a scratched and swollen face. A lad aged 5 years had put the bread in her mouth and covered her face with his jacket "for fun." He had also kicked her. Meningitis and pneumonia supervened and death occurred after some days. Nothing abnormal was noticed about the boy who committed the crime and he left the coroner's court in charge of his parents. According to English law, a child under the age of 7 years is considered incapable of committing a crime. If between the age of 7 and 14 it is left to the jury to decide whether or not the offender is conscious of wrongdoing.

Miscellany

Simple Treatment of Hemorrhoids.—It is strange, says the *Medical Standard,* how often patients with big thrombotic piles are sent away from physicians' offices with prescriptions for ointments which seldom relieve them, when it is so easy to inject a little cocain, to split the pile, to turn out the clot and to send the patient home rejoicing.

Avoid Wood Alcohol.—It is always and everywhere dangerous, and there is no warrant for its use or sale for purposes other than as a fuel. The harm it works is generally irremediable, and if it be not used at all, no vain regrets will follow. If physician and druggist will wait on the sanction of authority before employing it, it will soon pass from the market except for use as a fuel.—*Medical Summary.*

Meat Eating.—In the consumption of meat the United States heads all nations. The enormous quantity of 11,000,000,000 pounds of meat—147 pounds to each person—is used here yearly. Of this amount, 5,000,000,000 pounds are beef, 4,000,000,000 pork, and 800,000,000 mutton. Great Britain stands next, with nearly one-third less—100 pounds per inhabitant. Norway uses 80 pounds; France, 77; Spain, 70; Germany, 64; Switzerland, 62; Belgium, 61; Austro-Hungary, 60; Russia, Portugal, and the Netherlands, 50 pounds each; Italy, 24 pounds.—*Good Health.*

The Model Physician.—"Dr. McCormack outlined the work of a model medical society and drew a picture of the model physician, who, he declared, should be the cleanest man in the community, physically and morally; whose home life should be above reproach and an example to his clientele; who, as the representative of his profession, should be well and neatly dressed; whose income should be commensurate with the preparation involved and the sacrifices he must make if he is true to the traditions of his calling."—From the report of an address in the *Johnstown* (Pa.) *Daily Tribune.*

A Medical Law for Alaska.—Efforts will be made at the next session of Congress to secure the passage of a measure, providing for a medical law for Alaska. At present there is no law whatever regulating the practice of medicine in our great northwestern territory. . . . The people of Alaska are entitled to such protection as a good medical law will furnish them—just as much entitled to it as those of any of the states of the Union. There is no reason why a charlatan, with no education or experience, should be allowed to go there among our fellow citizens and risk the lives and health of the people, any more than it should be allowed in the other territories or states of the Union.—*Medical Sentinel.*

Malpractice Two Hundred Years Ago.—A French exchange states that a book published at Amsterdam in 1785 relates that a surgeon opened an artery by mistake in doing venesection on a wealthy patient. She succumbed not long after to the effects of this blunder, but in her will she left the surgeon a small yearly pension "not only to comfort him, but so that he could live the rest of his life without doing venesection any more." A similar occurrence is related in the *Journal Encyclopédique* of Jan. 5, 1772: A Polish princess had had the same experience, and added a clause to her will expressing her forgiveness and leaving the surgeon a small pension to indemnify him for the "loss of reputation that may follow my sad catastrophe." The article is headed: "Other Times, Other Manners," referring to the recent damage suits for comparatively trifling injuries.

Dried Lizards for Chinese Medicine.—The Board of United States General Appraisers at New York had before them, in the matter of protests 138, 283, etc., of Song Chong and others, the question of how dried lizards should be classified for duty. The lizards, dressed and dried, stretched on pieces of bamboo, were imported in pairs, supposed to be a male and female, bound together. It was stated that they were prescribed, together with herbs, by Chinese physicians, the lizards and herbs being cooked together and the broth administered to the patient as a tonic. After consideration, the board is of the opinion that the lizards were not used as medicine, but as one of the ingredients to be cooked with herbs to make a medicine, and that, therefore, notwithstanding they have for many years been classified for duty as Chinese medicine, they are really dutiable as non-enumerated unmanufactured articles.

Parathyroid Treatment for Eclampsia.—Professor Vassale of Modena has been applying in therapeutics the extract of the parathyroid glands. He has found the active principle of the parathyroid glands remarkably efficient in the treatment of puerperal eclampsia. The relations between the thyroid gland and pregnancy have long been studied, and it proved a great disappointment when thyroid treatment failed to display appreciable efficacy in the treatment of puerperal eclampsia. Vassale has taken up the study again, but uses the extract of the parathyroid glands alone. At the Italian Congress of Gynecology, last year, an experimental study was presented on "Thyroparathyroid Insufficiency and Eclampsia," which supplied an experimental foundation for parathyroid treatment. Pestalozza urges its trial on a large scale in the treatment of eclampsia. His editorial on the subject is in the *Ginecologia* for Feb. 28, 1905.

Prognosis of Diabetes.—Lagrange writes to the February *Revue des Mal. de la Nutrition* that if diabetics will practice moderation in all things and cultivate a tranquil mind, the great majority will live the usual span of life and many will surpass it. He has known many diabetics whose urine contained sugar up to the eighties. He knows of a certain gentleman who became diabetic at 50 and died at 91, without ever having restricted himself to any special diet or other measures, except his invariably daily long walk. There are probably legions of other diabetics, he adds, who grow old placidly, unaware of their glycosuria, as they never happened to have their urine examined. The prognosis, therefore, of what is called essential diabetes, that is, not due to some organic lesion, is not so grave as is generally supposed, provided the individual shields himself a little more carefully than the common run of mankind from the accidental causes of disease.

Embalming of Mummies.—The *Semaine Médicale* states that the last number of the *Revue des deux Mondes* contains an article from Professor Lortet of Lyons describing recent discoveries in respect to the embalming of mummies. More than seventy yards of cloth about twelve inches wide were used in wrapping a mummy. This cloth was impregnated with a resinous alkaline solution, to which he attributes the preservation of the tissues. Ten large jars, carefully stoppered, full of a yellowish powder, have been found in a tomb near Thebes. The powder has been analyzed and found to contain an aromatic resinous substance and a large proportion of sodium salts, with some sand and clay. The ingredients of the resinous substance have been further recognized. It is evidently an extract of various aromatic substances, myrrh predominating. Cloth dipped in water in which some of this powder was dissolved presents the same appearance and odor as the cloth in which mummies are wrapped.

Lead Poisoning from Wall Papers During Pregnancy.—Lefour reports the case of a woman, seven months pregnant, who was seized with abdominal pain supposed to be related to her condition. Her husband suffered in the same way, and was advised to have his appendix removed. During an absence from home of some weeks all symptoms subsided, but on her return they reappeared. A miscarriage had already taken place in similar circumstances. A slight blue line was seen on the gums and the wall paper was suspected. The paper of the bedroom contained 23 gr. of lead per square meter, and the papers of two other rooms smaller amounts. On changing the paper and under appropriate treatment the symptoms were relieved. A living child was born at the eighth month, and though delicate seemed likely to live. Lefour examined eleven samples of wall paper taken at random and found nine to contain lead and the other two copper. The quantity of lead varied from 18 to 119 gr. per square meter, the larger amounts being in velvet papers.—*Jour. de Med. et de Chir. Prat.*

Typhoid and Paratyphoid Fever in Tropical Countries.—Marchoux was sent to Senegal on a scientific mission in 1896, and made a special study of these diseases. In an article in the *Revista Med.-Cir. do Brazil*, xiii, No. 1, he states that he found typhoid fever, as it occurs in temperate climates, extremely rare in Senegal. Its place is taken by the paratyphoid infections, and they are usually mild. When typhoid fever is imported it generally assumes a very severe form. In one epidemic from imported typhoid there were 35 deaths among the 170 typhoid patients in the hospital. The paratyphoid affections are very common in tropical countries, and probably include the pseudo-typhoid fevers, the "continuous malarial" fevers and the "mountain typhoid" observed in Brazil. The success of copious irrigation of the intestines in all these affections seems to confirm their intestinal origin, and that the large rather than the small intestine is involved. He was unable to detect any connection between these affections and the drinking water, but in the epidemic of typhoid above mentioned the water-borne source of infection was clearly evident and demonstrated that prophylaxis of typhoid can be effectually realized in the tropics as well as elsewhere.

Not Cured by Eddyism.—Dr. Guest, in a recent discussion before the Louisville Medical and Surgical Society, reported in the *American Practitioner and News*, made the following report to show the part psychology may play in the treatment of hay-fever: "I have a brother-in-law who suffers every summer with hay-fever. He has a relative who believes in Christian Science. She told him that she felt positive that she could direct him to a woman, a Christian Scientist, who could cure him. He at first objected because he hated to go to a woman physician. He arranged, however, to communicate with her daily by letter. When his hay-fever broke out he suffered with it all that day and night, and the next morning wrote her a note telling her to put him on treatment immediately. When he returned that night he felt improved and slept better. He wrote his second note next morning, and was much encouraged. The third day he repeated his letter writing, and stated that the symptoms had almost ceased. The running from the nose had practically ceased, the discharges from the eyes had ceased, and he was guying me about being cured by a Christian Scientist when regular physicians could do nothing for it. The night of the third day, when he came home to supper, he found a note from the Christian Scientist, stating that she had been in the country, and would put him under treatment the next day. Realizing that all his treatment had been only in his imagination, the symptoms reappeared with the same intensity as before. The day following he made arrangements to leave the city for the summer."

Verification of Death.—The injection of a stain into the tissues will decide the question of actual or apparent death with absolute certainty. If the blood is circulating to the slightest extent, the stain will spread throughout the system, while in case of actual death the stains remain localized at the point of the injection. Icard uses fluorescin, and years of experience have confirmed its complete reliability. About 2 gm. or 30 grains of fluorescein, that is, 10 c.c. (ʒiiss) of a 20 per cent. alkaline solution of the stain are more than sufficient to determine the persistence of life in case of merely apparent death. The injection had better be made in the epigastrium or in the flank and the body covered and treated as if still alive. At the end of two hours, if the mucosæ have not turned yellow and the conjunctivæ green, the possibility of persisting life must be abandoned. Icard urges that the bottle of the stain and the syringe should be kept in a box, in charge of the head nurse, to be handed to the interne when he comes to verify the disease. He should make the injection and sign a printed certificate to that effect, mentioning also the other signs of death. The head nurse should sign the certificate below, two hours later, certifying that she had inspected the corpse before it was carried to the morgue, and noted that it was cold and that the mucosæ were not yellow and the eyes not green. Icard pleads that these certificates and the fluorescein test should be required as a matter of course in all hospitals. After two hours of negative response, the necropsy can be undertaken without waiting for signs of putrefaction to appear. Icard has been publishing a series of articles in the latest *Archives Générales de Médecine* on the necessity for more scientific verification of deaths, with the above suggestions for the technic. In a pamphlet recently published he urges the use of this simple and convenient test on the battlefield, as the wounded, in collapse of shock and exhaustion, might be readily assumed to be actually dead and be buried forthwith.

The Great White Plague.—Dr. John B. Huber of New York City, in *Popular Science Monthly*, says: It is with a very real sense of melancholy that one contemplates the long death-roll of those of the world's great men and women who have succumbed untimely to the tubercle bacillus, which is and has been through countless generations by far the most potent of all death-dealing agencies. Had it not been for this detestable parasite, Bastien Le Page might have given us another Joan-of-Arc to feast our eyes on; Rachel might for many years have continued to permeate the spirits of her audiences with the divine fire that was in her. Our navy did well enough in the 1812 war, as all the world knows; but what a rip-roaring time there would have been if John Paul Jones had lived to take a hand in it. We might be reading some more of Stephen Crane's splendid war stories; we might have had some more of Robert Louis Stevenson's delicious lace-work; Schiller might have given us another Song of the Bells; we might have taken another Sentimental Journey with Laurence Sterne; Henry Cuyler Bunner might have continued to delight us, and to touch our hearts; John Keats might have given us another "Endymion." Had the tubercle bacillus permitted, Nevin might have vouchsafed us another "Rosary;" von Weber another "Euryanthe Overture;" Chopin might have dreamed another "First Polonaise;" and the tender flute notes of Sidney Lanier might even now be heard. Maria Constantinovna Bashkirtseff, Zavier Bichat, John Godman, Rene Theophile Hyacinth Laennac, Henry Purcell, John Sterling, Henry Timrod, Artemus Ward, Henry Kirke White, Henry David Thoreau, Baruch Spinoza—such names as these are but a moiety among those of the world's nobility, whose precious lives were cut off in thei rprime by the "Great White Plague."

Food and Feeding.—Few things can be more curious than the change which has been passing over the public mind, in the course of the last few years, with reference to food and feeding. Much has been made from time to time of the tendency to glorify intoxication which rollicks through the pages of Dickens, while it has to some extent escaped notice that his types of character are, as a rule, quite as much given to over-eating as to over-drinking; and that the meals at Manor Farm are as much in evidence as the beverages. Underlying the whole fabric of his fiction is an assured belief that to eat a great deal of food is an action not only meritorious in itself, but certain to be rewarded by good health, high moral tone, and enhanced physical vigor; and it is not too much to say that these were the prevailing convictions of the time in which he lived. The late Sir Henry Thompson, in the interesting volume on "Food and Feeding," which has now passed through many editions, was among the first to insist forcibly on the fact that the amount of food consumed should be diminished in advancing life; and Prof. Clifford Allbutt has lately written to the *Times*, on his return from a tour in America, to say that wholly new ideas about diet are beginning to prevail there, and that American men of science have obtained demonstration of the fact that all food in excess of the actual requirements of the body is a source of weakness instead of a source of strength; nervous force which might be better employed being consumed in its partial digestion and in its ultimate removal from the system. He tells us that this is especially true of nitrogenous material, while hydrocarbons can be burnt off in respiration with comparative facility. It would almost seem as if Nature, in attaching pleasure to the consumption of food, had carried her precautions against starvation to excess, and had ignored the risks incidental to repletion. An inquest was held a week or two since on an omnibus driver who died suddenly after an enormous meal of pork chops, and from no other discoverable cause than gastric distension by food and flatulence which arrested the action of a feeble heart.—*Critic and Guide.*

Poisonous Honey.—In the *New Zealand Medical Journal* for April Dr. E. D. Aubin has described the symptoms of honey poisoning observed in that country, principally in Maoris. As the poison is derived from plants visited by the bees, the symptoms of honey poisoning vary in different countries. In New Zealand only wild honey appears to cause poisoning. The source of the poison is thought to be the yellow flowers of a cress-like plant, the "whauriki," which grows chiefly in swamps. Three modes of onset of symptoms were observed—"gastric," "nervous" and "cerebral." In the gastric form giddiness and nausea are followed by severe and persistent vomiting, which may last off and on for two days. There usually is some abdominal pain. Apparently no irritant action is exerted on the bowels, for diarrhea was never observed. In the nervous mode of onset there are symptoms of irritation of the peripheral nerves—muscular tenderness and pains, and numbness in the arms and legs. Such symptoms are observed in the earlier stages of peripheral neuritis and in mussel poisoning. The cerebral mode of onset is illustrated by the case of a Maori who dropped down in a fit and became unconscious, and fits recurred at intervals. Delirium may be the first symptom. In severe cases the gastric, nervous and cerebral symptoms are usually combined, one set predominating. The characteristic symptom of honey poisoning is the epileptiform attack. It differs in no way from an ordinary epileptic fit and may be preceded by a cry. After the attack the patient may be quiet and may sleep or may be restless and delirious. In severe cases the fits recur and the patient is unconscious between them. In some cases a condition resembling the status epilepticus is induced and may be fatal. The fits generally cease in less than twenty-four hours. Slight vasomotor phenomena usually are present, the face and skin generally feeling very hot and swollen. The duration of the illness is from a few hours to two days, though nervous symptoms are generally complained of for a considerable time afterward. In fatal cases death usually occurs within twenty-four hours. Apparently the symptoms are due to a poison, probably of the nature of an alkaloid, which affects chiefly, if not solely, the nervous system. The gastric symptoms, Dr. Aubin thinks, are of cerebral origin—a view supported by the absence of signs of intestinal irritation.

Association News

THE PORTLAND SESSION.

Good Weather and a Fairly Large Attendance at the Fifty-Sixth Annual Session.

[By Special Telegram from Portland.]

The weather is perfect, warm and clear. The attendance is large, the registration on Monday and Tuesday totaled 1,416.

[Note: The total registration at Atlantic City in 1900 was 2019; at St. Paul in 1901, 1,806; at Saratoga in 1902, 1,425; at New Orleans in 1903, 1,993; at Atlantic City in 1904, 2,890.—Ed.]

The President's Address.

The first General Meeting was held Tuesday, July 11, at 11 a. m., in the Armory of the Oregon National Guard. The retiring president, Dr. John H. Musser, Philadelphia, called the meeting to order and made an introductory address. Addresses of welcome were delivered by Hon. M. C. George, representing the state of Oregon; Dr. Harry Lane, mayor of the city of Portland, and Dr. George F. Wilson, representing the Oregon State Medical Society. Dr. Lewis S. McMurtry, Louisville, Ky., president of the association, gave his address on "The American Medical Association; Its Origin, Progress and Purpose," which is printed in full on pages 145-149 of this issue.

House of Delegates.

The first meeting of the House of Delegates was called to order at 10 a. m., Monday, July 10. After organization and preparation of the list of delegates in attendance, various committees were appointed, and then formal business was begun. The detailed minutes will be published next week.

Correspondence

Yeast in Tuberculosis—A Claim to Priority.

Buffalo, N. Y., July 3, 1905.

To the Editor:—In a recent article by Huggard and Marland, in the *Lancet*, June 3, 1905, the action of yeast in tuberculosis and its influence on the opsonic index, they state that they have made observations on the influence, if any, of yeast, taken internally, on tuberculosis. They selected cases, chronic in nature, in which the patient had either "stuck in the mud" or was losing ground. A number of cases which were going downhill were also included in the observation. The results in some cases were striking, in others encouraging, in others almost *nil.* "In most cases the downward course either became less rapid or was arrested, and the stationary cases improved, etc." A good account of the article appeared in abstract in The Journal July 1, 1905, p. 75. In reading the original article I was struck with the absence of any reference to my previous communications on this subject. In a communication appearing in The Journal, A. M. A., 1901, I urged the use of brewers yeast in large doses in cases of tuberculosis, and in a paper, "Brewers Yeast in Therapeutics," published in *American Medicine*, October, 1902, I review the entire subject of "Brewers Yeast" with reference to its therapeutic application and cited four cases in which brewers yeast was used with satisfactory results. Since this time I have used fresh brewers yeast in all cases of tuberculosis, in private practice and in the wards of the German Hospital, and believe, as I did, and as amply verified in the paper of Huggard and Marland that brewers yeast is a valuable remedy in cases of tuberculosis. Brewers yeast has proved itself, if anything, even more gratifying in its results in a number of cases of bronchopneumonia where resolution of the lung and convalescence was too prolonged. By giving it in large doses of from two to three ounces three times a day resolution has been hastened, and the patients have improved in weight and strength.

Julius Ullman.

400 Franklin street.

Expulsion of Placenta Before Birth of Child.

Chicago, July 4, 1905.

To the Editor:—Relevant to the inquiry of Dr. Butt in The Journal, July 1, page 60, I would say that I was called on June 15 by a midwife to a case in which the third stage of labor had preceded the second, the placenta having been delivered about half an hour before my arrival. The os was the size of a silver dollar, with a right sacro-anterior presentation of the fetus. The woman's pulse was 90, small. She was pale and weak, but her condition was not alarming. Hemorrhage had ceased. In about forty minutes she expelled, unassisted, an exsanguinated male fetus, apparently at term. The midwife was reticent as to the history of the case and her connection with it, but I gathered from the husband, who could speak little or no English, that there had been hemorrhages for some weeks prior to the woman's confinement. She had had four children, all living, of whom the births had been normal. So far as known she made an uneventful recovery.

H. A. Haskell, M.D.

Goodrich, N. D., July 6, 1905.

To the Editor:—As expulsion of placenta before that of child seems rather uncommon, the following may be interesting: The patient was seen Aug. 5, 1904. Miss ——, primipara, white, aged 22, had taken some drug (probably ergot), to produce abortion. This had produced severe pains and some hemorrhage. On examination the placenta was plainly visible at vulva; there was a very foul odor. With patient under anesthesia the placenta and then a six-months fetus were delivered manually. The position of placenta before contractions of uterus was not known.

C. E. McReynolds, M.D.

Submucous Resection of Deflected Nasal Septa.

Toledo, Ohio, July 6, 1905.

To the Editor:—In my article on the above subject in The Journal, July 1, 1905, through an inadvertence on my part a foot note says: "Read before the American Laryngological Association at Toledo, Ohio." This was an error for which I offer my apologies. It should have stated, "Read before the middle section of the American Laryngological, Rhinological and Otological Society at Toledo, Ohio, Feb. 24, 1905." By kindly publishing this letter you will greatly oblige.

Francis W. Alter, M.D.

Marriages

Alvin B. Snyder, M.D., to Miss Elizabeth Sinclair, both of Chicago, June 26.

Philip Rovno, M.D., to Miss Panna Julia Starotto, both of Philadelphia, June 25.

Thomas G. Harris. M.D., to Miss Dora Bailey, both of Camden, W. Va., June 13.

John F. Sloan, M.D.. Peoria, Ill., to Miss Sarah McDonald of Brimfield. Ill., June 24.

Harry C. Buell. M.D., to Miss Anna Augusta Faber, both of Canandaigua. N. Y., June 27.

Clarence K. Dengler, M.D., to Miss Edna May Crotsly, both of Philadelphia, June 28.

Nancy A. Rodger, M.D., Menominee, Mich, and Rev. Chenoyeth of Toronto, Ont., June 21.

Thomas A. Speidel, M.D., Felicity, Ohio, to Miss Helen Dimmitt of Batavia, Ohio, June 27.

Otho August Fiedler, M.D., Milwaukee, to Miss Elizabeth Morris of Sheboygan, Wis., June 28.

Hans Zinsset, M.D., to Miss Ruby Kunz, both of New York City, at Lake Mohegan, June 29.

William H. Reedy, M.D., Towanda, Ill., to Miss Nellie Fincham of Bloomington, Ill., June 29.

James W. Squires, M.D., Churubusco, Ind., to Miss Margaret Snyder of New Era, Ind., June 28.

Thomas M. Aderhold, M.D., Zeigler, Ill., to Miss Mae Sinicka of Chicago, at Du Quoin, Ill., June 21.

Henry Journeay Welles, M.D., to Miss Elizabeth M. Jones, both of Minneapolis, Minn., June 28.

Benjamin Hall Searing, M.D., New York City, and Miss Helene Stuckle of Montclair, N. J., June 29.

John W. Young, M.D., Fort Wayne, Ind., to Miss Ida Rhea of Frankford, Ind., at Nattawa, Mich., June 23.

Floyd Sweetland Clarke, M.D., Le Mars, Iowa, to Miss Emma Louise Cannon of Sioux City, Iowa, June 21.

Deaths

William C. Tyree. M.D. Kansas City (Mo.) Medical College, 1876, ex-president and professor of ophthalmology and otology in the Kansas City Medical College; oculist and aurist to St. Margaret's, St. Joseph's and Scarritt Hospitals, Kansas City; member of the city council from 1902 to 1904; president of the Kansas City Academy of Medicine in 1891; died at El Paso, Texas, June 23, from tuberculosis, after an illness of eighteen months, aged 51. The active pallbearers at the funeral were members of the faculty of Kansas City Medical College. The board of aldermen, directors of the Kansas City Medical College and Kansas City Academy of Medicine adopted resolutions deploring Dr. Tyree's death.

Pascal H. Sawyer, M.D. Cleveland Medical College, 1850, one of the oldest and most prominent physicians of Cleveland; for a long time a member of the faculty of the medical department of the University of Wooster, Cleveland, died in St. Anthony's Hospital, Cleveland, June 26, from pneumonia, aged 68.

William H. Vincent, M.D. University of Buffalo (N. Y.) Medical Department, 1881. for several years a member of the board of supervisors of Cattaragus County, N. Y., died at his home in Hinsdale, N. Y., June 12, after a protracted illness, aged 51.

John Allen, M.D. Medical College of Ohio, Cincinnati, 1882, referee of the Kentucky State Board of Health for Kenton County, died at his home in Covington July 1. from spinal meningitis, after an illness of ten days, aged 48.

Charles Steinert, M.D. Berlin (Germany) Medical College, 1859, of Pittsburg, died at the home of his daughter in Waynesburg, Pa., June 26, from pneumonia, after an illness of two days, aged 65.

Isaac L. Lynch, M.D. Kentucky School of Medicine, Louisville, 1895, died at his home, Jolly Station, Breckenridge County, Ky., June 29, from tuberculosis, after a long illness, aged 36.

C. P. Gray, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1881, of Lowry City, Mo., died at the home of his daughter in Leesville, Mo., June 20, after an illness of two years.

George Eger, M.D. Medical College of Ohio, Cincinnati. 1894, bacteriologist to St. Francis' Hospital, Cincinnati. died at his home in that city June 30, after a short illness, aged 34.

Otto B. Hicklin, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1876, died at his home in New London, Mo., June 28, after a protracted illness, aged 71.

William C. Weed. M.D. Buffalo, 1891, died at his home in North Coshocton, N. Y., June 27, after an illness of nine months, from nephritis, aged 59.

J. S. Bradley, M.D. Missouri Medical College, St. Louis, 1879, died at his home in Frankford, Mo., June 27, from disease of the liver.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

ISTHMIAN CANAL SERVICE.

Several correspondents ask whom to address for full information regarding positions in the medical service on the Panama Canal. They should address the Isthmian Canal Commission, Washington, D. C. A large number of details concerning the service were published in THE JOURNAL, Dec. 17, 1904, page 1881.

DR. JAPHETH SILAS BOYER WANTED.

DR. H. C. KERRICK, Brocton, Ill., wants the address of Dr. Japheth Silas Boyer, last heard from at Floriston, Nev., who graduated at Rush Medical College, Chicago, 1893.

WANTED: CASE OF AIR EMBOLISM DURING UTERINE PACKING.

DR. JOSEPH B. DE LEE, 34 Washington Street, Chicago, would like to know if there has occurred, in the practice of any of the readers of THE JOURNAL, an authentic case of air embolism, during the application of a uterine packing, either by means of the tubular packer or the uterine packing forceps, and at any time of the puerperal state.

State Boards of Registration

COMING EXAMINATIONS.

California State Board of Medical Examiners, San Francisco and Los Angeles, Cal., July 19. Secretary, C. L. Tisdale, San Francisco.

State Board of Health of Illinois, the Great Northern Hotel, Chicago, July 19-21. Secretary, J. A. Egan, Springfield.

State Board of Health of West Virginia, Charleston, W. Va., July 18-20. Secretary, H. A. Barbee, Point Pleasant.

Nebraska State Board of Health, State House, Lincoln, Neb., August 9-10. Secretary, Geo. H. Brash, Beatrice.

Kansas April Report.—Dr. George F. Johnston, Lakin, reports the written examination held at Kansas City April 25-27, 1905. The number of subjects examined in was 15; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 108, of whom 97 passed and 11 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Rush Med. Coll.	(1904)	83
Kansas City Med. Coll. (1905), the grade of 76 was reached by one, 77 by three, 78 by four, 79 by three, 80 by seven, 82 by one, 81 by one, 83 by three. 86 and 87 by one each.		
Central Med. Coll., St. Joseph	(1905)	81, 78, 81, 79
University Med. Coll., Kansas City, Mo. (1905), the grade of 76 was reached by one, 77 by three, 78 by five, 79 by five, 80 by five, 81 by three, 82 by two, 84 by one, 85 by three.		
Homeopathic Med. Coll., Kansas City Mo.	(1900)	77
Beaumont Med. Coll.	(1898) 78, (1905)	79
Ensworth Med. Coll.	(1905)	78, 79, 80
Medico-Chirurgical Med. Coll., Kansas City Mo.,	(1905)	76, 80, 80, 77, 81, 81.
University of Louisville	(1897) 75, (1904)	78
Louisville Med. Coll.	(1898)	80
Hahnemann Med. Coll., Chicago	(1876).	76
Kansas Med. Coll., Topeka, (1905), the grades of 75, 77 and 78 were reached by one each; 79 was reached by two; 80 by four, 81 by two, 83, 84, 85 and 87 were reached by one each.		
Eclectic Med. Inst., Cincinnati	(1905)	78, 80
Eclectic Med. Univ., Kansas City, Mo	(1905)	76
University of Nashville	(1904)	79
Ohio Med. Coll.	(1904)	79
College of P. & S., Kansas City, Kan.	(1905)	80, 82
College of P. & S., St. Louis	(1905)	80

FAILED.

College.	Year Grad.	Per Cent.
College of P. & S., Keokuk	(1895)	74
Ensworth Med. Coll.	(1904)	73
Central Med Coll.	(1905)	73
Eclectic Med. Univ.	(1905)	70
Ohio Med. Coll.	(1903)	74
Northwestern University	(1897)	72
Hahnemann Med. Coll., Chicago	(1890)	73
Medico-Chirurgical Coll., Philadelphia	(1892)	70
Barnes Med. Coll.	(1896)	71
Missouri Med. Coll.	(1900)	74
Gross Med. Coll.	(1902)	72

The general average attained by all representatives of the Kansas City Medical College who passed was 80.4: of University Medical College. 79.5: of the Medico-Chirurgical Medical College of Kansas City, 79.1; of the Kansas Medical College. 80.6.

Minnesota June Report.—Dr. C. J. Ringnell. secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at St. Paul, June 6-8, 1905. The number of subjects examined in was 12; total number of questions asked, 95; percentage required to pass, 75. The total number of applicants examined was 105, of whom 83 passed and 22 failed. The following colleges were represented:

PASSED.

University of Minnesota (1905), the grade of 79.1 was reached by three; 80.1, by three; 80.5, by two; 81.1, by five; 81.4, by two; 83, by three; 83.6, by two; 84.4, by two; 84.5, by two; 83.7, by three. The grades of 76.4, 76.9, 77.2, 77.6, 77.9, 78, 78.1, 78.7, 78.8, 78.9, 79.4, 79.5, 79.6, 79.7, 79.9, 80.2, 80.8, 82.8 82.2, 82.9, 83.2, 83.5, 83.8, 84.2,, 84.3, 84.7, 84.9, 85, 85.2, 85.6, 85.4, 86 and 86.1, were attained by one each.		
Hamline University (1903) 83.2; (1905) 83.6, 75.1, 80.1, 85.6, 82.4, 83.2, 83.1.		
Northwestern University	(1905)	90.2, 82.2, 84.8, 89.5.
Rush Med. Coll. (1901) 86.2; (1903) 86.3; (1904) 80.6, 82.4; (1905) 81.7.		
Johns Hopkins University	(1900)	86.2
College of P. and S., Chicago	(1897)	86.6
University of Toronto	(1905)	84.5
Creighton Med. Coll.	(1904)	82.5

FAILED.

University of Minnesota (1905) 71.1, 76.5,* 73.4, 76.2,* 74.3, 76.9,* 73.9, 75.8,* 75.6.*		
Hamline University. .(1904) 69.7, 68.6, 69.5, 65.2;	(1905)	71.6
Kentucky School of Med.	(1893)	59.1
Kansas City Med. Coll.	(1905)	74.6
Milwaukee Med. Coll.	(1905)	66.5
Hahnemann Med. Coll. Chicago..... (1902) 71.9;	(1905)	75*
College of P. and S., Chicago	(1904)	69
Keokuk Med. Coll.	(1905)	64.5
Barnes Med. Coll.	(1897)	35.5

*The board did not grant a certificate because of low marks in the principal branches.

The general average attained by all representatives of the University of Minnesota who passed was 79; of Hamline University, 82.3.

Pennsylvania June Examination.—The examinations of the State Medical Examining Board were held in Philadelphia, Pittsburg and Harrisburg, June 27-30. Three hundred and twenty-nine candidates presented themselves for examination in Philadelphia and 121 in Pittsburg, making a total of 450. Two of the Philadelphia candidates were expelled for "cribbing." Fifty-six homeopathic candidates were also examined, and 18 candidates for the eclectic school were examined in Harrisburg. The applicants taking examinations in Philadelphia represented over eight states and nearly a dozen foreign countries. The following questions were asked:

PRACTICE.

1. Describe the symptoms indicative of intestinal perforation in typhoid fever and the treatment.
2. State the period of incubation, the day on which the exanthem usually appears. the symptoms, complications and period of infection of scarlatina, its relative degree of contagiousness and the means by which its spread occurs.
3. Describe the physical signs of mitral stenosis and explain what are its effects and how these effects are caused.
4. Give the causes and symptoms of ascites and tell how to recognize by what disease it is produced.
5. If summoned to a middle-aged person, discovered in a comatose condition, explain how to recognize on what disease the condition depends, and give the treatment for the uremic type of coma.

THERAPEUTICS.

1. Describe various methods for the reduction of hyperpyrexia, giving the rationale of each, and direct the treatment when due to sunstroke and to acute inflammatory rheumatism.
2. Explain how vascular tension is decreased and increased and what the conditions are when it should be respectively diminished or increased.
3. Give the symptoms and treatment of strychnin poisoning and name the disease to which it is similar, and tell how to distinguish one from the other.
4. Explain the principles governing the treatment of convulsions when due to a toxic agent in the blood; cite two conditions, and give their respective treatments.
5. State several conditions in which the bromids are indicated and explain how to administer large doses and cause the least general disturbance.

DIAGNOSIS.

1. State of what diagnostic import is the stool and cite three examples.
2. Diagnosticate infantile spinal paralysis.
3. Diagnosticate the so-called interstitial nephritis.
4. Differentiate carcinoma of the stomach and gastric ulcer.
5. Differentiate acute pneumonia and acute exudative pluritis.

HYGIENE.

1. Discuss the dangers proceeding from an impure water supply.
2. Describe the best methods for the disposal of excreta and sewage.
3. What hygienic measures should be recommended to prevent constipation?
4. What diseases of animals are communicable to man?
5. Discuss the general principles of ventilation.

ANATOMY.

1. Give a description of the brachial plexus and name five of its branches.
2. Describe the pyloric orifice of the stomach and give its topography.
3. Describe the frontal bone, including its articulations and sinus.

4. Locate the openings in the walls of the abdomen and give the important structures in relation therewith.
5. Describe the bladder in either sex, including its ligaments and relations and give its nerve supply.
6. Describe the pancreas and give its topography, outlet, nerve and blood supply.
7. Describe the hyoid bone and the muscles attached to it.
8. Describe the pharynx, its structure, boundaries, openings, nerve and arterial supply.
9. Name, locate and describe the ductless glands of the body.
10. Give the origin, course and topography of the ureters.

PHYSIOLOGY.

1. What is accomplished physiologically by the portal circulation?
2. Describe how, respectively, the intracranial arterial and venous blood pressure are regulated.
3. Describe the pulse mechanism.
4. State the source, composition and physiologic action of the gastric juice.
5. Give the functions of the trigeminal nerve.

PATHOLOGY.

1. Describe the structural changes of prostatic hypertrophy.
2. Describe the pathologic changes in disease of the vermiform appendix.
3. Give the pathologic condition characteristic of necrosis and caries of bone.
4. Describe the structural changes characteristic of the various types of hepatic cirrhosis.
5. Describe the changes in tissue in two forms of nasopharyngeal catarrh.

SURGERY.

1. Describe any one of the dislocations of the head of the femur and a method of reduction.
2. State how to determine the point of obstruction in ileus.
3. Describe the treatment for penetrating gunshot wounds of the abdomen.
4. Describe ligation of the brachial artery at its middle third and give the collateral circulation.
5. Describe the operation for suppurative mastoiditis.
6. Outline the general principles for the treatment of fracture of bones.
7. Give the symptoms and treatment for concussion of the spinal cord.
8. State the advantages and disadvantages of the various forms of suture materials.
9. Enumerate the symptoms respectively of cerebral concussion and compression and outline the treatment of each.
10. What are the indications for operative treatment in any form of hernia.

OBSTETRICS.

1. Describe true and false labor pains and give the treatment for the latter.
2. In the albuminuria of pregnancy what treatment should be instituted to prevent eclampsia and avoid premature delivery?
3. What are the causes of retained placenta, and the treatment for each?
4. What are the essential conditions requiring the forceps, and what precautions are necessary during their use?
5. Describe an effective method to prevent rupture of the perineum during labor.
6. What precautions are necessary to prevent infection of the baby's eyes at birth and what is the treatment of ophthalmia neonatorum?
7. Enumerate the symptoms which indicate the death of the child *in utero,* and state what course should be pursued in such a condition.
8. Give the mechanism of delivery in a left mento-anterior position.
9. State the causes and give the treatment of asphyxia neonatorum.
10. What are the symptoms of syphilis in the newly born child?

CHEMISTRY.

1. Give the chemical composition of the blood and state to what its coagulation is due.
2. Describe a test for diacetic acid.
3. Describe the properties and uses of boric acid.
4. State the chemical antidote for arsenic and write directions for its immediate preparation.
5. Describe a reliable test for the determination of glycosuria.

MATERIA MEDICA.

1. (a) What is salicin; (b) from what derived; (c) action and uses?
2. Define a *tincture, an extract, an infusion, a triturate* and an emulsion, giving an example of each.
3. Give the name of the active principle derived from a cardiac stimulant, a vasomotor depressant and a cerebral excitant.
4. State the composition of the following preparations and give the proper officinal name for each: Fowler's solution, Lugol's solution, Donovan's solution, Basham's mixture and Brown mixture.
5. Write two prescriptions, each containing one of the mercurial chlorids and give the dose and proper method of administration.

Wyoming June Report.—Dr. S. B. Miller, secretary of the Wyoming State Board of Medical Examiners, reports the written examination held at Cheyenne, June 7-8, 1905. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of applicants examined was 9, including one osteopath, all of whom passed. The following colleges were represented:

College.	Year Grad.	Per Cent.
Jefferson Med.-Coll.	(1904)	77.9
University of Colorado	(1904)	79.8
Omaha Med. Coll.	(1898)	79.9
University of Nebraska	(1905)	78.8
Miami Med. Coll.	(1897)	81
University of Minn., Homeo. Dept. ..(1904) 89.2;	(1897)	91.4
Denver Homeo. Med. Coll.	(1905)	86.3

Reciprocity Can Not All Be on One Side.—At the annual meeting of the State Board of Medical Examiners of New Jersey, held at Long Branch, N. J., July 5, the following resolution was adopted:

> WHEREAS, The educational and examining standards for the medical license of New Jersey are at least equal in all respects to those of New York, and in some respects higher, and
>
> WHEREAS, The degree of unreasonableness in the matter of interstate endorsement on the part of New York can not be further ignored; therefore, be it
>
> *Resolved,* That on and after October 16, the date of the next regular meeting of this board, the endorsement of medical licenses issued by New York will be suspended until further notice.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers U. S. Army, week ending July 8, 1905:

Rich, Edwin W., asst.-surgeon, ordered to Depot of Recruits and Casuals, Angel Island, Cal., pending repairs to transport *Thomas.*

Comegys, E. T., deputy surgeon general, retired from active service.

Little, Wm. L., asst.-surgeon, granted two months' leave of absence.

Steer, Samuel L., asst.-surgeon, relieved from duty at Army and Navy General Hospital, Hot Springs, Ark., and ordered to Fort Assinniboine, Mont., for duty. Granted two months' sick leave of absence.

Cox, Walter, asst.-surgeon, relieved from duty at Fort Banks, Mass., and ordered to Fort Reno, O. T., for duty.

Ford, Joseph H., asst.-surgeon, relieved from duty at Fort Reno, O. T., and ordered to sail from San Francisco, Sept. 30, 1905, for duty in Philippine Islands.

Ford, Joseph H., asst.-surgeon, authorized on arrival at San Francisco, en route to Philippine Islands for duty, to enter Army General Hospital, Presidio of San Francisco, for observation and treatment.

Lyster, Wm. J. L., asst.-surgeon, relieved from duty at Presidio of San Francisco, and ordered to Fort McIntosh, Texas, for duty.

Webber, Henry A., asst.-surgeon, relieved from duty at Fort Walla Walla, Washington, and ordered to Fort Banks, Mass., for duty.

Jones, Percy L., asst.-surgeon, ordered, in addition to his duties at Fort Preble, Me., to assume also the duty of examiner of recruits and attending surgeon to the recruiting party at Portland, Me.

Gibson, Robert J., surgeon, leave of absence extended three months

Reynolds, F. P., surgeon, *ordered to proceed to* Vancouver Barracks, Washington, *for temporary duty as chief* surgeon, Department of Columbia.

Brechemin, Louis, deputy surgeon general, promoted to lieutenant colonel, deputy surgeon general.

Hogue, Gustavus, I., contract surgeon, left Fort McDowell, Cal., for his home at North Lake, Wis., for annulment of contract.

Carpenter, Aldén, dental surgeon, arrived at Fort Stevens, Ore., for temporary duty.

Jones, George H., contract surgeon, granted leave of absence for three months, fifteen days.

Davis, Oscar F., contract surgeon, returned from temporary duty at Fort Screven, Ga., to his proper station, Fort DeSoto, Florida.

Slater, Ernest F., contract surgeon, left Fort Hancock, N. J., on leave of absence for one month and sixteen days, with permission to go beyond sea.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending July 1:

Dennis, J. B., surgeon, detached from Bureau of Medicine and Surgery and ordered to Navy Yard, Pensacola, Fla.

Fiske, C. N., P. A. surgeon, detached from Naval Medical School, Washington, D. C., June 27, and ordered to the *Marblehead.*

Guest, M. S., surgeon, detached from the *Lancaster* and ordered to the Naval Training Station, Newport, R. I., with additional duty on the *Constellation.*

Wieber, F. W. F., surgeon, ordered to Navy Yard, Pensacola, Fla., and to additional duty in command of the Naval Hospital at that yard.

Von Wedekind, L. L., surgeon, detached from the Naval Training Station, Newport, R. I., and ordered to the *Lancaster.*

Shiffert, H. O., P. A. surgeon, detached from duty under instruction at Naval Medical School, Washington, D. C., and ordered to the Naval Hospital, Philadelphia.

Tolfree, H. M., P. A. surgeon, detached from duty under instruction at Naval Medical School, Washington, D. C., and ordered to the Navy Yard, Norfolk, Va.

Iden, J. H., P. A. surgeon, orders of June 21 modified; ordered to Naval Hospital, Newport, R. I.

Bell, W. H., detached from duty with the Marine Detachment on the Isthmus of Panama and ordered to the *Dixie.*

Angwin, W. A., asst.-surgeon, detached from the Naval Academy, and ordered to the *Massachusetts.*

Hoen, W. S., asst.-surgeon, detached from the *Marblehead* and ordered to the *Chicago.*

McClanahan, R. K., asst.-surgeon, discharged from treatment at the Ge [illegible]yard, N. M., and ordered to the Naval [illegible] more.

Brow [illegible] detached from the *Chicago,* and ordered [illegible] re Island, Cal.

McM [illegible] surgeon, detached from the Naval Recruit [illegible] granted leave of absence for one month and ordered then to wait orders.

Spear, R., surgeon, detached from the Naval Hospital, Washington, D. C., and *ordered* to St. Petersburg, Russia, for special duty in connection with the naval medical and sanitary features of the Russo-Japanese war.

Wright, B. L., P. A. surgeon, detached from the Naval Hospital, Pensacola, Fla., and ordered home to wait orders.

Michels, R. H., asst.-surgeon, detached from the *Wilmington* and ordered home via the *Lawton*.

Strine, H. F., asst.-surgeon, detached from the *Barry* and ordered home via the *Lawton*.

Griebe, C. C., asst.-surgeon, detached from the Naval Station, Guam, and ordered to the *Oregon*.

Strite, G. E., asst.-surgeon, detached from the *Lawton* and ordered to the Torpedo Boat Flotilla, with station on the *Barry*.

Stoops, R. E., asst.-surgeon, detached from the *Lawton* and ordered to the Naval Station, Olongapo, P. I.

Owens, W. D., asst.-surgeon, detached from the *Lawton* and ordered to the *Villalobos*.

CHANGES FOR THE WEEK ENDING JULY 8, 1905.

Garton, W. M., P. A. surgeon, ordered to the Naval Hospital, Washington, D. C., for duty.

Murphy, J. F., asst.-surgeon, ordered to duty at the Marine Recruiting Station, Buffalo, N. Y.

Shaw, H., asst.-surgeon, ordered to the Naval Recruiting Station, Boston.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ending July 5, 1905:

Blue, Rupert, P. A. surgeon, granted extension of leave of absence for seven days.

Currie, D. H., P. A. surgeon, granted leave of absence for two months, from July 6.

Bean, L. C., acting asst.-surgeon, granted leave of absence for twenty days, from July 1.

Smyth, F. R., acting asst.-surgeon, granted leave of absence for twenty days, from July 10.

Thomas, J. G., acting asst.-surgeon, granted leave of absence for 30 days, from July 1.

Society Proceedings

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting of the North Branch, held May 16, 1905.

DR. BEN HIRSCH in the Chair.

A paper on "Dangers of the Domestic Use of Illuminating Gas and the Means of Avoiding Them" was read by Dr. Henry Leffman, which has been published in THE JOURNAL, June 3, 1905.

The Medicolegal Relations of Gas Poisoning.

DR. M. L. COPLIN referred first to the chronic gas poisoning, of which a great deal is seen on the continent, but very little here. He cited as two forms of this condition, combination with the hemoglobin and combination with the cells of the central nervous system, which very closely resembles the condition seen in tetanus poisoning. After describing in detail the conditions existing in these cases, he stated that the exact process was still unknown, but that doubtless in the chronic cases it was attributable to pathologic resistlessness and inability of the patient to build himself up; he referred to the fact that it had been demonstrated that there was an increase of arsenic in the body. He cited a number of cases in which death was caused by the inhalation of the gas, and discussed the medicolegal questions which have been raised in several important cases, particularly where related to life insurance contracts, among which was one in which the question as to whether the death was accidental or not was raised, one instance being that of a man who had previously suffered from angina pectoris. He then considered in detail the rubber tubing, automatic heating apparatus, etc. He also raised the point as to whether the changes seen in the blood were due to the inhalation of the gas, or were postmortem changes.

The General Characteristics of Gas Poisoning as Seen in Philadelphia.

DR. WILLIAM S. WADSWORTH, coroner's physician, reported a personal experience he had had when a medical student by being almost overcome with furnace gas, and stated that it was a very easy matter for serious results to be produced. Although he recognized the dangers resulting from the use of rubber tubing for connecting gas lights, he felt that the public would not tolerate too radical measures in regard thereto, and that probably the most that would be borne would be regulation of the length of the tubing, and the requirement that a fairly good quality be used. He referred to the more common employment of water gas at the present time, and the dangers thereof, and contrasted them in detail with those from coal gas. He called particular attention to the increasing number of deaths from this cause during the last few years, the most marked being in murder and suicide. Defective fixtures and apparatus were cited as fertile causes of the accidental cases, particularly stoves in which there is insufficient combustion. The pathologic conditions were outlined in detail, prominent among which are a puffy pink appearance of the skin and in extreme cases a carmine tint, and there is a tendency to rather rapid decomposition.

DISCUSSION.

MR. WILLIAM MCDEVITT, inspector of the Fire Underwriters' Association, stated that fires had so frequently occurred by reason of defective rubber tubing connections, that the inspectors would not now pass stoves connected in this manner. He felt that the public should be carefully educated concerning this danger and suggested as the most appropriate persons to see that this is accomplished are the officials of the companies selling the gas stoves. He called attention to the escape of gas from the heater, oftentimes due to an undetected crack in the firepot, and also to the danger of fire arising from a very small, unsuspected opening in the gaspipe in the cellar.

MR. WASHINGTON DEVEREUX, another of the inspectors of the Fire Underwriters' Association, directed attention to the poor quality of the tubing used for connecting drop lights with the gas fixtures. He then stated that there was very great danger of the automatic electric lighting gas burners becoming leaky, especially those operated by a push button, a slight jar, such as walking over the floor, being sometimes sufficient to turn them on.

DR. SAMUEL WOLFE reminded the society of the liability of accidents arising through slot meters by the gas becoming exhausted and going out automatically, and then being turned on again by the mere putting of a coin in the slot, some of the burners being open.

DR. J. THOMPSON SCHELL related a case of this nature.

Regular Meeting of the South Branch, held May 26, 1905.

DR. L. J. HAMMOND in the Chair.

DR. S. C. RUNKLE reported a case for diagnosis.

The Summer Diarrheas in Children.

DR. J. P. CROZIER GRIFFITH cited statistics showing the mortality in early life. During the first year it is 18.33 per cent in the European states, and in the registration area in the United States 18.28 per cent., nearly one-quarter of which are due to diarrhea. In European countries the greatest mortality occurs during the cold months, while in this country it is just the converse. The causes assigned are: 1, hot weather; 2, artificial feeding; 3, bacteria. He cited statistics showing that by far the greater number of deaths occurred in bottle-fed babies, being mainly due to the difference in the composition of the milk, and to the fact that even though the milk has been sterilized or pasteurized, the germs may be removed thereby, but the poison resulting from the germs has not. The treatment should depend on the form of the diarrhea and the length of its duration. He considered the different forms under the head of acute dyspeptic diarrhea, milk poisoning, cholera infantum and enterocolitis. The treatment he classified under four headings—starving, washing, resting and healing. He recommended that the child be put on barley water until the vomiting and diarrhea ceased. In order to remove the poisonous matter, if early, washing out the stomach; if later, the washing out of the intestinal canal by means of purgatives, etc., is of value. Food should not be given until the symptoms subside and then the best results will be secured by starting off with a cereal treated with malt. Of the remedies having a healing effect bismuth was especially mentioned.

DISCUSSION.

DR. JOHN S. PEARSON said that the difficulty of treatment of these cases increased in proportion with the length of time the condition had been present. He commented on the value of rest, bismuth, and the substitution of goat's milk for cow's milk. He has secured good results from nitrate of silver when there was positive inflammation of the mucous membrane of the bowel.

Dr. John B. Turner suggested the value of egg albumin as a food for these patients.

Dr. William S. Higbee referred to the fact that the number of cases of these conditions had decreased very much during the last ten years, probably due to improved sanitary conditions and diet. He rarely gives fractional doses of calomel, preferring to give one or two grains, to be followed by a dose of castor oil. In the treatment of the second stage of the condition he recommended bismuth; in severe cases opium and regulation of the diet.

Dr. S. C. Runkle emphasized the value of bismuth and expressed the belief that the reason it failed in many cases was because too small doses were given.

Dr. Griffith stated that he would not hesitate to give morphia, hypodermically, for a state of collapse in cholera infantum, and that he considered 1/100 of a grain a very moderate dose for a child one year old. He reviewed the serum treatment and stated that as yet the results were not very encouraging and that diarrhea from other causes than dysentery would occur.

Uses and Abuses of the Free Dispensary.

Dr. R. O. Kevin cited four classes of patients as improperly frequenting the institutions: 1. People who can, but do not want to pay. 2. People not knowing a specialist, but desiring a specialist's opinion without paying a specialist's fees. 3. Sufferers from alcohol and other habits. 4. Hypochondriacs, who try to find relief from real or fancied wrongs. He emphasized that those concerned in the management should use their best endeavors to exclude unworthy patients.

DISCUSSION.

Dr. W. S. Higbee felt that the chief in charge of the clinic should guard carefully the character of the patients that are admitted for treatment, and should refuse to treat those who were not proper subjects.

Dr. J. P. Crozier Griffith stated that he believed in some instances the abuse was due to a too ardent desire on the part of the physician in charge of the clinic to have a large dispensary roll.

Dr. S. C. Runkle felt that the fault was not alone with either the general practitioner or the specialist, and believed that it would be to a certain extent remedied if the specialist would have more moderate charges for those recommended by their attending physician as unable to pay full fees.

Regular Meeting of the Kensington Branch, held May 9, 1905.

Dr. J. C. Chestnut in the Chair.

Excision of the Spinal Accessory Nerve for Torticollis.

Dr. William H. Morrison reported cases and exhibited the patients, the first being a girl 11 years of age, who two years ago was taken with a stiff neck, apparently an ordinary attack of rheumatic torticollis, involving the right sternocleido muscle. Treatment by the salicylates, iodids and the various nerve sedatives, such as bromids, belladonna and cannibis indica was without avail and the muscle remained in a state of intense tonic spasm, being relieved only under ether. A tenotomy of the sternocleido mastoid was done, but without relief, and in January, 1904, three-quarters of an inch of the spinal accessory nerve was excised. An anterior incision was made along the anterior upper border of the muscle, being careful to avoid the internal jugular vein. The wound healed without complications and now fifteen months later, the child is able to rotate the head in all directions.

Nasal Saddleback Deformity Treated by Paraffin Injections.

The second case, shown by Dr. Morrison, was one of paraffin injection to correct saddleback deformity of the nose, in a boy about 12 or 14 years of age, resulting from a blow on the nose, displacing the nasal septum. About six months after the accident, Dr. Morrison operated on the septum by making a stellate incision by means of forceps and straightening and holding the septum in position by means of a nasal splint until it could heal, and, after healing, the bridge of the nose was built up by means of subcutaneous injection of paraffin. He stated that the paraffin should be mixed with white vaselin to bring it down to a melting point of from 110 to 115 degrees F. The paraffin may be injected in a semisolid state by means of a metal syringe, under which circumstances he thought there was less danger of producing embolism of the central retinal artery or gangrene of the skin than by using it melted to a liquid state.

DISCUSSION.

Dr. J. Coles Brick referred to the fact that the melting point of paraffin was given from 110 to 140 degrees F., and stated that when he had requested paraffin made with a melting point of 110 to 115, the chemist had informed him that a foreign substance could not be mixed with the paraffin, and that any substance that was added for the purpose of reducing the melting point would merely be melted out and the paraffin would remain intact. He stated that he now used the paraffin in a solid form by means of a piston syringe with a ratchet arrangement, which prevented the possibility of extravasation into the tissues.

Treatment of Hemorrhoids by the General Practitioner.

Dr. Collier F. Martin dealt particularly with methods of diagnosis and treatment suitable for employment by the general practitioner, and expressed the belief that the majority of patients can be completely and satisfactorily cured with a minor operation under nitrous oxid. He deprecated the practice of taking the patient's word for it that there was some rectal condition present and ordering ointments or suppositories, and advised routine examination in all cases. For the successful handling of this condition, he believed that the physician must train himself to make the diagnosis from the symptomatology and careful local examination. Numerous instruments are not required, as the majority of cases can be diagnosed by inspection and digital examination, the speculum being useful to confirm the diagnosis and in cases of ulceration and catarrh of the sigmoid flexure, a proctoscope may be necessary. He stated that the character of the speculum was largely a matter of personal preference and that he used a small conical one. He then took up the etiology and the classification of the condition, citing as the two causes, obstruction and infection, the former either mechanical or anatomic, and the infection being usually attributable to the lymphatics, although in external cases, it might be of outward origin.

The treatment, he stated, should be directed (1) to the removal of the congestion, and (2) to the removal of the tumor, and for the former divulsion of the sphincter alone will often accomplish the result. The different methods of operation, particularly injection, ligature and clamp and cautery were gone into in detail, the first he considered applicable for those cases who would not submit to an anesthetic, while for those who were willing to do so, he preferred the clamp and cautery to the ligature. External hemorrhoids are very often cured by divulsion of the sphincter under nitrous oxid gas, while for internal venous hemorrhoids the best results are secured by injection, when general anesthesia is refused.

DISCUSSION.

Dr. J. Coles Brick emphasized the importance of digital examination of all cases of rectal trouble, citing as illustrative of the omission to do so, a case in which a fishbone near the anus had been found, and referred to the reflex symptoms cited by Dr. Hilton, i. e., pain in the left leg as an indication of rectal trouble. The careful routine examination of the coccyx was also recommended and the value of divulsion of the sphincter commented on favorably. The injection method he viewed as an excellent plan of treatment in the hands of an experienced operator, but questioned the advisability of its employment by the general practitioner, and stated that the carbolic acid solution employed should not be stronger than 50 per cent.

DR. A. G. BAKER believed that each case must necessarily possess a certain amount of individuality and the treatment to some extent be governed accordingly. For the purposes of examination he considered a bivalve speculum best that has one valve fenestrated and the other solid. In the removal of piles by the injection method, he felt that the best results were secured by the injection of two or three drops of pure carbolic acid. He stated that he had secured good results with external piles by the use of an ointment of ten grains of morphia, one dram of carbonate of lead, and one ounce of unguent stramonium. For internal piles was recommended the use of about equal parts of cream of tartar and sulphur taken internally.

DR. WILLIAM H. MORRISON stated that the diagnosis must rest entirely on visual and digital examination. As illustrative of the importance of care in making such examination he cited the case of a young woman, whose condition had been cited as hemorrhoids, when it was really a small anal fissure, which was promptly cured under appropriate treatment. Another case diagnosed as hemorrhoids proved to be cancer of the rectum; another case which was diagnosed as hemorrhoids, digital examination proved to be due to a large splinter of wood. In regard to the treatment, he stated that he had always secured good results with the ligature, which was the only form he had ever employed.

DR. FRANKLIN BRADY had also been limited in his experience to the ligature operation, but believed the injection method to be of great value in the hands of the experienced operator.

DR. MARTIN recommended for the injection method a 50 per cent. solution of phenol, preceded a few days before by divulsion under nitrous oxid. He also laid particular stress on the extent of divulsion, not to tear completely through the muscular fibers, but to stretch them until a few fibers just begin to be felt to separate.

ARKANSAS MEDICAL SOCIETY.

Thirtieth Annual Meeting, held at Little Rock, May 16-18, 1905.

The President, **DR. JOSEPH P. RUNYAN**, Little Rock, in the Chair.

Welcome.

In the absence of Mayor Lenon, Dr. Edwin Bentley extended a cordial welcome to the society in behalf of the state, and also for the Pulaski County Medical Society, to which Dr. Buchanan Hatchett made a fitting response.

President's Address.

The subject of the address of Dr. Joseph P. Runyan was "Some of the Needs of the Medical Profession, and the Measures Best Adapted to the Supplying of Such Needs," in which he called attention to the necessity of the society adopting the standard constitution and by-laws recommended by the American Medical Association, and also emphasized the necessity for the securing of proper legislation and the value to the society of a good legislative code. He urged the need of a higher literary education among medical men, and stated that he hoped to see the day when a literary degree would be required as a requisite for entering on medical studies. The Arkansas Medical School, he stated, should be a part of the University of Arkansas and should be supported by the state, with specialists employed as teachers, and there are urgent needs for a state bacteriologist and for a state pathologic laboratory.

Organization.

The secretary reported a net membership gain of 130 dur- the year, and an increase in receipts over the previous r.

.eports from ten councilor districts showed that there were y thirteen counties which remained unorganized in the state and in most of these organization would be effected during the coming year.

First District.—Dr. G. A. Warren, Black Rock, reported that only Crittenden and Poinsett counties remained unorganized.

Second District.—Dr. Joseph C. Cleveland, Bald Knob, reported that Fulton, Izard and Sharp counties, the only three in his district not yet in the society, would be organized before the next meeting.

Third District.—Dr. Montague Fink, Helena, reported that Cross county was the only county in his district which was still unorganized.

Fourth District.—Dr. Vernon McCannon reported that Bradley county was the only one unorganized in his district and that this would be organized shortly.

Fifth District.—Dr. Morgan Smith, Eldorado, reported that all counties in his district were organized and in good condition, and practically all the physicians in the society.

Sixth District.—Dr. S. M. Carrigan, Hope, reported only one unorganized county in his territory, namely, Polk county, and the membership rapidly increasing.

Seventh District.—Dr. C. Travis Drennen, Hot Springs, reported that there were still two counties unorganized in his district, Montgomery and Scott.

Eighth District.—Dr. Edward R. Dibrell, Little Rock, reported that all counties in his district were thoroughly organized.

Ninth District.—Dr. John B. Bolton, Eureka Springs, reported that Stone and Van Buren counties were still unorganized.

Tenth District.—Dr. St. Cloud Cooper, Fort Smith, reported that one county in his district was unorganized, namely, Madison county.

Election of Officers.

The election of officers resulted as follows: President, Dr. S. M. Carrigan, Hope; vice-presidents, Drs. William S. Stewart, White Oak; Matthew S. Dibrell, Van Buren, and D. W. Bright, Lewisville; secretary, Dr. Charles C. Stephenson, Little Rock; councilors, first district, Dr. J. A. Warren, Black Rock; third district, Dr. Montague Fink, Helena; fifth district, Dr. Frederick E. Harrison, Fordyce; seventh district, Dr. John L. Butler, Sheridan, and ninth district, Dr. John B. Bolton, Eureka Springs; delegates to the American Medical Association, Dr. Herbert H. Canfield, Siloam Springs; alternates, Drs. Morgan Smith, Eldorado, and Lorenzo B. Gibson, Little Rock.

The next meeting will be held at Pine Bluff.

The banquet was attended by 160 members, Dr. Frank Vinsonhaler presiding as toastmaster.

ARIZONA MEDICAL ASSOCIATION.

Annual Meeting held at Prescott, June 1-2, 1905.

The President, **DR. WILLIAM H. WARD**, Phoenix, in the Chair.

In the absence of Mayor Goldewater, City Councilman J. W. Wilson welcomed the association to Prescott, and Dr. Henry Hughes, Phoenix, responded on behalf of the association.

In his annual address the president, Dr. William H. Ward, reviewed the history of medicine and pointed out helpful lessons from the experience of the past.

Diseases of School Children.

The committee on the results of diseases of the eye, ear and nose of school children made its report through its chairman, Dr. Ancil Martin, Phoenix, and a resolution was presented by Dr. J. W. Coleman, Jerome, requesting that the matter of the examination and care of school children as regards these diseases, be brought to the attention of the Territorial Board of Health, through the territorial health officers.

The annual address was delivered by Dr. William W. Whitmore, Tucson, on the "Therapeutics of Alcohol," in which he reviewed the chemistry and physiology of alcohol and its applicability as a medicinal agent.

Dr. Andrew W. Morton, San Francisco, made an instructive and interesting demonstration of spinal anesthesia at Mercy Hospital, performing an operation for hernia, a second for a removal of a vesical tumor, and the third an operation on the foot under local anesthesia.

In the evening the annual banquet was held, over which Dr. John S. Barrett presided.

American Medical Association.

In response to this toast, Dr. Andrew W. Morton, San Francisco, emphasized the value of organization and co-operation and the benefit that accrues to the individual physician from meeting his brother practitioners and exchanging ideas through the mediums of association meetings.

Election.

The following officers were elected: President, Dr. J. W. Coleman, Jerome; vice-presidents, Drs. Arthur W. Olcott, Tucson; Otto E. Plath, Phoenix, and Albert E. Ealy, Kingman; secretary, Dr. John W. Foss, Phoenix (re-elected); treasurer, Dr. R. F. Palmer, Roosevelt; councilors, Drs. Clarence E. Yount, Prescott; Ancil Martin, Phoenix, and Hiram W. Fenner, Tucson; delegates to American Medical Association, Dr. Henry A. Hughes, Phoenix; alternate, Dr. Frank W. Sawyer, Prescott; and essayist, Dr. Henry P. Thomoson, U. S. Army, Fort Whipple. The next meeting will be held at Phoenix.

CONNECTICUT MEDICAL SOCIETY.

One Hundred and Thirteenth Annual Meeting, held in Hartford, May 24-25, 1905.

The President, **Dr. William H. Carmalt**, New Haven, in the Chair.

Dr. Everett J. McKnight, Hartford, chairman of the committee on legislation, outlined a plan for changing from the present organization to a new one.

Anti-Vaccination Legislation.

Dr. William H. Carmalt reported at length the history of the attempt at anti-vaccination legislation and suggested that a resolution be adopted reaffirming the necessity of keeping compulsory vaccination laws on the statute books.

Reports of Officers.

Dr. Nathaniel E. Wordin, Bridgeport, the secretary, reported that the society numbers 758, a net gain of 22 for the year, during which 50 joined the society and 15 died.

Dr. William W. Knight, Hartford, the treasurer, reported receipts of $2,345.58, and a balance in hand of $804. A per capita tax of $3.00 was levied.

Dr. Charles A. Tuttle, New Haven, reported that the committee on medical registration had examined 94 applicants during the year, 74 of whom passed.

Election of Officers.

The following officers were elected: Dr. Nathaniel E. Wordin, Bridgeport, president; Drs. Frederick A. Morrell, Putnam, and Eli P. Flint, Rockville, vice-presidents; Dr. Walter R. Steiner, Hartford, secretary, and Dr. Joseph H. Townsend, New Haven, treasurer.

The annual banquet was held at the Allyn House, May 26.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Belladonna.

Belladonna, according to Beasley, is valuable as an antispasmodic and is of service in cardiac palpitation, dysmenorrhea, constipation, laryngismus stridulus, night sweats of phthisis, nocturnal incontinence of urine, cystitis, spasmodic asthma and whooping-cough. It may be employed both externally and internally in neuralgic affections, in checking the secretion of milk, in relieving cramp, whether of body or limb, in relieving spasm of sphincters, of uterus, bladder or rectum, and in relieving chordee. It should be kept in mind that some persons show an idiosyncrasy to belladonna, small doses in some instances producing delirium and an erythematous rash.

The linimentum belladonnæ is of value in neuralgic and rheumatic pains.

Note.—The liniment is made of the following:

℞. *Liq. extractæ belladonnæ*..............ʒvi 25|
Camphoræ ....gr. xxxviii 2|5
Aquæ dest...........................m.' lxxv 5|
Alcoholis, 90 per cent., q. s. ad......ʒxiiss 40|

The ointment is serviceable as an application in spasm of the sphincter. For spasm of the urethra or chordee it may be applied along the under side of the penis. It is also recommended as a local application over carbuncles.

The linimentum belladonnæ may be used alone or in combination *with other liniments in the treatment of lumbago as* follows:

℞. Linimenti belladonnæ
Linimenti chloroformi
Linimenti aconiti, āā.....................℥i 30|

M. Ft. linimentum. Sig.: One tablespoonful to be well *rubbed into the painful area; the part is then to be covered with hot spongiopiline.*

In the treatment of constipation the following combinations are recommended, the dose of each to be regulated to suit the individual case:

℞. Ext. belladonnæ...................gr. 1/4 |015
Pulv. capsici......................gr. 1/4 |015
Ext. cascaræ........................gr. iii |20

M. Ft. pil No. i. Sig.: One such pill at bedtime as required. Or:

℞. Ext. bellad. alc...................gr. 1/4 |015
Pil. rhei co..........................gr. iii |20

M. Ft. pil. No. i. Sig.: One such pill at bedtime. Or:

℞. Ext. belladonnæ...................gr. 1/6 |01
Aloini ....gr. 1/4 |015
Strych. sulph.....................gr. 1/40 |0015
Pulv. ipecac.......................gr. 1/4 |015

M. Ft. pil. No. i. Sig.: One pill night and morning, as required.

To relieve palpitation and heart pain the following is recommended:

℞. Tinct. belladonnæ....................m. v |30
Tinct. camph. co...................m. xv 1|
Syr. aurantii ....ʒss 2|
Aq. camphoræ q. s. ad..................℥i 30|

M. Sig.: To be taken at one dose and repeated three times daily if required.

In case of cardiac weakness the following is of value:

℞. Tinct. belladonnæ....................m. v |30
Tinct. cacti grandiflor...............m. v |30
Aq. chloroformi q. s. ad..............℥i 30|

M. Sig.: To be taken at one dose in a little water and repeated once daily.

To check the flow of milk the author recommends the following:

℞. Emp. belladonnæ.

Sig.: A piece six inches in diameter to be applied to each breast.

To check night sweats the following combination is recommended:

℞. Ext. bellad. alc....................gr. 1/4 |015
Agaricin ....gr. 1/6 |01

M. Ft. pil. No. i. Sig.: One at bedtime to check the night sweats of phthisis.

In spasmodic asthma the following:

℞. Tinct. belladonnæ..................m. xv 1|
Tinct. lobeliæ ætheræ...............m .x |65
Tinct. jaborandi...................m. xv 1|
Aq. chloroformi q. s. ad................℥i 30|

M. Sig.: At one dose to relieve the attack.

In cases of marked irritability of the bladder the folllowing is recommended:

℞.	Tinct. belladonnæ	m. viii		50
	Infusi buchu q. s. ad	℥i	30	

M. Sig.: To be taken in half a glassful of barley water and repeated every six hours.

Shoemaker recommends the following ointment containing belladonna in the treatment of boils and carbuncles, also in local abscess formations in herpes zoster:

℞.	Ung. belladonnæ	ʒss	2	
	Lanolini	℥ss	15	
	Cerati plumbi subacetati	ʒiii	12	
	Ung. zinci oxidi	℥ss	15	

M. Sig.: To be applied locally once or twice daily.

A lotion or an ointment containing belladonna is recommended by this author in the treatment of pruritus of the genitals and urticaria, and in chronic eczema when attended with excessive itching:

℞.	Naphthol	gr. xx	1	30
	Ung. camphoræ			
	Ung. menthol, āā	ʒii	8	
	Ung. belladonnæ	℥ss	15	

M. Ft. unguentum. Sig.: To be applied locally. Or:

℞.	Acidi carbolici	ʒss	2	
	Linimenti belladonnæ	℥ii	60	
	Glycerini			
	Aq. rosæ, āā	℥iv	120	

M. Ft. lotio. Sig.: Apply locally.

In relieving leucorrhea the following is recommended:

℞.	Ext. bellad. fol. alc	gr. xxiv	1	65
	Acidi tannici	ʒiss	6	
	Olei theobrom., q. s.			

M. Ft. suppos. No. xxiv. Sig.: Three or four suppositories to be used daily.

In the treatment of neuralgia, which is often a sign of defective nutrition and associated with anemia, the author recommends the following combination:

℞.	Ext. bellad. fol. alc	gr. iv		25
	Quin. sulph	gr. xxii	1	50
	Ferri sulph. exsic	gr. vii		50
	Strych. sulph	gr. 1/4		015
	Acidi arsenosi.	gr. 1/5		012
	Oleoresinæ piperis	m. viiss		50

M. Ft. pil. No. xv. Sig.: One pill three times a day.

Inflammation of the phárynx and tonsils is frequently lessened by some preparation of belladonna, and for this purpose Shoemaker recommends the following combination:

℞.	Potass. chloratis	gr. lxxx	5	
	Acidi hydrochlor. dil	ʒiss	6	
	Tinct. aconiti	m. xv	1	
	Tinct. belladonnæ fol	ʒss	2	
	Infus. rhois glabræ q. s. ad	℥iv	120	

M. Ft. solutio. Sig.: One tablespoonful in water every three hours.

Atropin may in a great many instances be substituted for the other preparations of belladonna. The following, known as Ludlow's ointment, is of value applied locally in the treatment of boils and other local suppurating processes:

℞.	Atropinæ sulph	gr. ss		03
	Aconitinæ	gr. iss		09
	Olei tiglii	m. ii		12
	Liq. petrolati	℥i	30	

M. Ft. unguentum. Sig.: Rub in a piece the size of a pea over the affected area and repeat once daily.

Cerebrospinal Meningitis.

The treatment of cerebrospinal meningitis, according to Huber, in *Med. News*, consists in the proper isolation of the case in charge of a competent nurse and in a well-ventilated room. The room should not necessarily be kept dark, as a bandage over the patient's eyes serves the same purpose. The nutrition must be maintained by a proper liquid diet. An ice-bag should be applied to the head, and the head and neck should be properly supported. It is said that raising the head of the bed from six to eight inches sometimes gives relief. Water should be given in abundance, and care should be observed as to the elimination and the usual methods of reducing temperature should be carried out. The nasopharynx should be properly cared for, as it is a frequent seat of catarrhal condition in these cases, and the nares should be irrigated with a normal saline solution once or twice daily. Forced feeding may have to be resorted to early in the disease owing to a paralysis of the muscles of deglutition. Pain and restlessness must be relieved by morphin or codein, by the mouth or hypodermically. Bromids may serve the purpose. Severe vomiting in the later stages, according to the author, is relieved by lumbar puncture, hypodermic injections of small doses of morphin, ice to the epigastrium and care as to diet. If pulmonary edema occurs, sodium benzoate or caffein subcutaneously is recommended as giving prompt relief. Adrenalin is also spoken of favorably.

Packs or baths at a temperature of from 90 to 98 F., with or without mustard, will relieve the irritability, improve the circulation and induce sleep.

Aufrecht's method is also spoken of as of value; it consists in placing the patient in a hot bath, 104 F., with an ice-cap to the head and continued for fifteen minutes at a time, once or twice daily. It is claimed that by this treatment consciousness is restored, delirium calmed, and restlessness and pain relieved.

The Credé or mercurial ointment has been of no special benefit in these cases, according to this writer. In chronic hydrocephalus, potassium iodid internally and in small doses along with lumbar puncture prolong the life of the patient. The iodids are supposed to cause the absorption of the plastic exudate.

Medicolegal

When a Disability Is Immediate.—The Supreme Court of Kansas holds, in Order of United Commercial Travelers of America vs. Barnes, that, as applied to a contract indemnifying a person, in case of accident, for injury sustained by violent means which should, "independently of all other causes, immediately, wholly, and continuously prevent him from the prosecution of any and every kind of business pertaining to his occupation," the word "immediately" is not synonymous with "instantly," "at once," and "without delay." A disability is immediate, within the meaning of such contracts, when it follows directly from an accidental hurt, within such time as the processes of nature consume in bringing the person affected to a state of total incapacity to prosecute every kind of business pertaining to his occupation.

Value of Services Determined by Locality.—The Supreme Court of Rhode Island says, in the case of Best vs. McAuslan, brought by a specialist on the eye, ear and throat to recover for performing the "radical mastoid" operation, that the plaintiff and his two expert witnesses declared that, for performing the operation under the circumstances of this case, the sum of $500 charged was not excessive, while the defendant introduced as a witness a specialist in the same line, who had had a large experience with this class of operations, who testified, and was not contradicted, that the price for this operation in Providence would range from $200 to $300, although higher in other and larger cities. Continuing, the court says that the rule has been laid down, in several cases cited by the defendant, that "the value to be proved is the ordinary and reasonable price for services of that nature"—Styles vs. Tyler, 64 Conn., 432, 463; Ladd vs. Witte (Wis.), 92 N. W. Rep., 365, 367—and that, to prove the real value of services in question, customary charges of physicians for like services in the same locality may be shown—Jonas vs. King, 81 Ala., 285; see, also, Pfeil vs. Kemper, 3 Wis., 315—where the same rule is applied as to services not medical. In the court's opinion, this was the true rule to be applied in this case; and it followed, it says, that, as a sum of not to exceed $300 appeared to be the customary charge for this operation in this locality, that sum was all that the plaintiff should be entitled to recover for the operation alone, in the absence of an express contract for a larger sum. As to charges of $5 per visit at the house and $3 per visit at the office, all the medical witnesses on both sides testified that those were the ordinary and customary charges for a specialist in this locality, and that the services of the specialist in this case were necessary and proper, so the sum of $404 claimed for such visits was allowed.

Waiver of Privilege by Stipulation in Contract.—The Supreme Court of Nebraska holds, Western Travelers' Accident Association vs. Munson, that the prohibitions, in Section 333 of the Code of that state, against a physician's testifying to confidential disclosures made to him in the course of his professional employment, are for the benefit of the patient, who, by express provisions of Section 334, is permitted to waive them. It is not necessary that such waiver be made at the time of the trial. It may be included in and made a part of the contract sought to be enforced in the action in which such testimony is offered. A stipulation in a contract of life insurance to the effect that the proofs of death shall consist in part of the affidavit of the attending physician, which shall state the cause of death and such other information as may be required by the insurer, constitutes a waiver within the meaning of said sections, and renders the attending physician a competent witness as to the confidential disclosures made to him by the assured concerning his last sickness. It is further said in the case that it has been held that the patient may waive the protection of the statute, even though there is no provision for such waiver. Carrington vs. City of St. Louis, 89 Mo., 208; Grand Rapids Railway Co. vs. Martin, 41 Mich., 667. The proper treatment of a patient often involves an intimate knowledge on the part of his physician of facts of a delicate nature, and which the patient would object to having disclosed to third persons. The common law protects the patient against the voluntary disclosure of such facts, and the statute protects him against their involuntary disclosure by his physician. But where the patient himself not only consents, but expressly stipulates, that such disclosures be made in order to give force and effect to his contract, it would be a harsh and unwarranted application of a salutary rule to hold that the plaintiff (the beneficiary of his contract of insurance) could not avail herself of such stipulation for the enforcement of the contract made for her benefit.

No Promise on Part of Company to Pay for Services.—The Court of Errors and Appeals of New Jersey says, in the case of J. H. Mohlman Co. vs. American Grocery Co., that a boy who had been in the employ of the grocery company had been kicked by one of its horses while engaged at work at its stable, and received a severe injury to his jaw. Another employe of the company took him immediately to a physician's office for treatment, telling the physician, on being asked who was responsible for his bill, that the grocery company would be good for it. During the course of the treatment, which extended over a period of more than two months, it became necessary, in the judgment of the physician, to have an interdental plate made for the boy. This work, the physician told another employe of the company who was in the habit of accompanying the boy to his office, would require the services of an expert dentist, asking such other employe who would pay the dentist's bill; and the employe referred him to the grocery company's cashier. The cashier, in turn, applied to the company's manager for instructions, and was told to refer the physician to the Fidelity and Casualty Company, a corporation which had insured the grocery company against liability for accident to its employes. The physician then called up the casualty company on the telephone, and was informed by the agent who answered his call not to go ahead with the case until that company had looked into the matter, and that if he sent the boy to the dentist and incurred any bill he would have to pay it out of his own pocket. No other communications were had by the physician with the employes or agents of the grocery company relating to compensation for his services, so far as was shown. It was not contended that the statement made by the employe who first took the boy to the physician, that the grocery company would be good for the physician's bill, imposed any liability on that corporation. Nor does the court think that liability on that company's part to pay the physician's bill could be deduced from the failure of its manager to repudiate liability on its part and his referring the physician to the casualty company. It says that the question of the company's liability was one which the manager was not concerned with. He knew that if it existed the company was protected against loss by reason thereof through its contract with the casualty company. He properly concluded, therefore, that, as the casualty company was ultimately liable, if liability existed at all, for the expenses incurred on account of the boy's injuries, that company, and not the grocery company, was the one to determine whether or not the proposed expenditure should be made. His reference of the physician to the casualty company was tantamount to saying: "We have no responsibility in the matter. If the boy has any claim, the casualty company must pay it. They, therefore, and not the American Grocery Company, are the ones by whom the question of incurring this proposed expense must be passed on." Instead of being an affirmation of the grocery company's liability, and a notification to the physician that he was contracting an obligation against that company by treating the boy for his injuries, it was rather a notification that the physician must look to the casualty company, and not to the grocery company, for compensation for his services.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical News, New York.

July 1.

1 National Association for the Study and Prevention of Tuberculosis. President's Address. E. L. Trudeau, Saranac Lake, N. Y.
2 [illegible] Treatment of "Tics." B. Sachs, New York.
3 * [illegible] Pelves in the Treatment of Bright's Disease. [illegible] New York.
4 [illegible] of the Toxemia of Pregnancy. W. S. [illegible]
5 * [illegible] be Given to Women with Malpositions of the [illegible] G. Child, Jr., New York.
6 *Carbolic Acid Gangrene.* J. Herold, New York.
7 The Medical Profession in Its Relation to the Elimination of Communicable Diseases. E. N. Liell, Jacksonville, Fla.

3. **Lavage of Renal Pelvis in Bright's Disease.**—Ayres believes that not enough importance has been given to the probability that a large per cent. of cases of chronic nephritis, in which no discoverable cause for the inflammation can be found, are really due to extension of inflammation from the renal pelvis. He has treated a number of cases of nephritis in all of its various stages by lavage of the renal pelves, and the purpose of his paper is to present the results of such treatment. In speaking of these cases, he refers to beginning nephritis as parenchymatous degeneration. Pronounced cases are called parenchymatous or interstitial nephritis, according to the portion of kidney involved. He has treated 46 cases of parenchymatous degeneration, and in all but 8 the tubal cells and albumin have disappeared from the urine. Six of these 8 are still under treatment. Among these there were 46 patients who had casts, both granular and hyalin. Every one of these has been discharged, cured. There has been no indication of a recurrence of the trouble. Of the other 38 patients, all presented tubular epithelium; 16 had no albumin, and 22 showed more than a trace. The longest time required to cause the albumin to disappear in the mild cases was 11 weeks; the shortest, one treatment. Nearly all of the 38 patients remained under treatment for other troubles some months, during which time there was no evidence of a return of the kidney trouble. Of the 12 cases of advanced nephritis, 3 patients with chronic parenchymatous variety were markedly improved. Two patients with mild interstitial nephritis were somewhat improved. One patient with marked interstitial nephritis was considerably improved at first, but the treatment had no ultimate influence on the course of the disease. Three patients with well-marked interstitial nephritis

were not influenced; neither were 2 who had had decapsulation performed. One patient in the late stages of interstitial nephritis was made much worse by the treatment. Hence, lavage of the renal pelves is applicable only in selected cases. In subchronic and chronic parenchymatous nephritis, lavage will check the disease and markedly improve the general condition of the patient, in those cases that have not reached the stage known as cirrhotic kidney. It will certainly cure a beginning nephritis that is due to extension of inflammation from the renal pelves. Lavage of the renal pelves requires the utmost delicacy in handling the instruments, and the injections through the ureteral catheters must be made with patience and gentleness. Asepsis must be rigorously observed not only in regard to the cystoscope and catheters, but the hands of the operator and the urethra of the patient must also receive attention. The least roughness in the use of the cystoscope may cause injury to the urethra and to the vesical trigone. Lack of delicacy in the passage of the ureteral catheters may cause hemorrhage from the ureters. The use of too strong or too irritating solutions may cause severe renal colic; and an injection which is too copious or which is given with too much force causes considerable pain and will not benefit the patient. Ayres considers the straight view cystoscope preferable to the angular view in that it causes the patient much less pain; there is less danger of injury to the ureter; the character of any obstruction in the ureter may be more easily determined; and the entire operation of catheterization of the ureters is much more quickly completed with this form of instrument. The medication must be selected to suit each case. Ayres favors silver nitrate in a vehicle of boric acid, 1-8000, increasing slowly to 1-2000. The time occupied in giving a lavage varies with different patients. Those who have a tolerance for solutions in the renal pelves require about fifteen minutes, while patients with irritable or sensitive ureters require half an hour. In the former cases, the solution is thrown in slowly until there is a feeling of fullness over the kidneys; in the latter only about a dram should be thrown in at a time. In all from two to four ounces a temperature above that of the body—105 to 110 F. seems to be best borne by the patients. If colicy pains occur, it is best to remove the catheters immediately and to postpone further lavage for one week. A proper lavage of the renal pelves consists of repeated injections of small quantities of a medicated solution through a catheter that has been passed well up the ureters toward the pelves. It is not necessary that the eye of the catheter be in the pelvis, but it should be within six inches of it. After each injection, the fluid is allowed to flow out through the catheter before a second injection is given. Never inject large quantities. As the catheter is withdrawn, the solution is deposited all along the ureter so as to treat that organ. The patient is then requested to pass the water remaining in the bladder; a Janet wash of silver nitrate is given, and the operation is completed.

5. **Advice to Patients with Uterine Displacements.**—Child divides all malpositions of the uterus into three classes: Operative, non-operative, and questionable. The operative class is further divided into those requiring immediate attention, and those in which it is safe to wait for a reasonable time the convenience of the patient. Under the first subdivision, come those cases which may be classed as emergency ones, namely, inversion, incarceration and irreducible prolapse of the gravid uterus, and adherent gravid retrodisplacements with symptoms of threatened abortion. In the second subdivision are the complicated retrodisplacements and herniæ of the uterus either through the vagina or through the abdominal wall. In the non-operative class Child includes uncomplicated retrodisplacements and reducible hernia of the gravid uterus. The questionable class embraces the congenital type of cases and retrodisplacements with symptoms relieved by reduction, except when the use of a proper pessary fails to accomplish an anatomic cure, or in young virgins in whom its use is unjustifiable. The congenital cases being errors in development are each a law unto themselves and require a most thorough investigation. When the retrodisplacement is the only abnormality present, the patient is often greatly benefited by an early operation, but when other marked evidences of maldevelopment exist the prognosis is unfavorable.

American Medicine, Philadelphia.

July 1.

8 *Rectal Alimentation. W. H. Porter, New York City.
9 *Two Cases of Korsakoff's Psychosis; with Neuropathologic Findings in One of the Cases. R. V. Patterson, and D. J. McCarthy, Philadelphia.
10 *Primary Cancer of the Liver with Metastases to the Left Adrenal and Right Lung. W. F. Cheney, San Francisco, Cal.
11 Some Phases of Tropic Malarial Disease. T. W. Jackson, Philadelphia.
12 *Surgical Aids in the Treatment of Paralyzed Muscles and Their Deformities. S. D. Hopkins, Denver, Colo.
13 *Rheumatic Purpura in Children. J. J. Manasses, Philadelphia.

8. **Rectal Alimentation.**—Porter calls attention to the fact that, owing to the limited amount of food that can be utilized in this manner, it is at best a very poor substitute for the natural method of feeding. It does, in a measure, relieve the pangs of thirst and hunger that of necessity follow the slow process of starvation which occurs when the stomach and small intestines are thrown out of commission, but, so far as Porter's experience has gone, rectal alimentation has proved most unsatisfactory. He has tried all forms of substances, predigested and otherwise, for rectal alimentation, with but one result, namely, progressive starvation without the most intensely distressing symptoms.

9. **Korsakoff's Psychosis.**—Paterson reports two cases which he regards as typical of the disease. Both cases reported were sudden in onset, of alcoholic origin, and each patient exhibited the symptoms of ordinary, severe multiple neuritis with marked weakness and inability to walk, disorientation as to time and place, marked fabrications, illusions of identity, hallucinations of sight and hearing, and defective memory, with a certain peevishness and childishness of manner. After two months, the mental symptoms in one patient had improved sufficiently to show little more than a feeble memory for recent events, and at the end of four months such improvement in the physical condition as gave promise of a more or less complete recovery from the multiple neuritis. The second patient died of cardiac exhaustion at the end of one month. Neuropathologic findings showed no gross change in the brain or spinal cord. Microscopic examination revealed marked degenerative changes in the anterior horn cells of the cord and throughout the peripheral nerves and muscles, pyknosis in some of the cells of the pyramidal layer taken from the Rolandic area, diffuse moderate chromatolysis of the large Betz cells in the brain and a complete diffuse chromatolysis of the anterior horn cells in the cord. No changes were found in the subendymal tissues, neuroglia, blood vessels, meninges or by sheath stains in the spinal cord, medulla or brain.

10. **Primary Cancer of the Liver.**—Cheney cites a case occurring in a man of 65, whose symptoms were pain in the left side for fifteen years past; pain in the right side and tumor in the same region for two years past; loss in weight and persistent vomiting. He had a large palpable tumor below the right costal margin continuous with the liver above; a nodule in the epigastrium the size of a walnut; and a large, indefinite, deeply-seated mass on the left side, beneath the costal margin. The blood count gave evidence of a secondary anemia. There was no disease of the kidneys, lungs or heart. The diagnosis made was cancer of the pyloric end of the stomach and a gastroenterostomy was done for its relief. The patient died the same day from shock. At the autopsy it was found that the tumor in the right side was a large cancerous mass in the right lobe of the liver; the nodule in the epigastrium was situated in the left lobe of the liver; and the mass in the left side was found to be a tumor of the left adrenal, the size of an infant's head. The stomach and intestines were entirely free from invasion. The tumor was considered primary in the liver, because the structure of the metastases in adrenal and lung resembled that of liver tissue; and also because bile pigment was found in the adrenal tumor.

12. **Surgical Aids in Treatment of Paralyzed Muscles.**—Hop-

kins says that when mechanical means have failed to restore paralyzed muscles to usefulness, such surgical procedures as tendon transplantation or arthrodesis should be employed. Certain precautions should be observed in tendon transplantation: 1. Careful selection of cases. 2. Before muscle grafting is performed, the electric reactions should be taken to determine the strength of the muscles to be transplanted. 3. The reinforcing tendon should be as nearly parallel as possible to the one to be reinforced, and it should belong to the same muscle group, although this latter precaution is not absolutely necessary. 4. Overextension at the time of suture should be avoided, as subsequently the muscle will lose its contractile power. 5. The tension of reinforcing muscle should be estimated by pulling on it until it shows signs of complete resistance. 6. Silk sutures should be used and the muscles quilted together firmly. 7. Strict asepsis should be observed during the operation.

13. Rheumatic Purpura in Children.—Manasses reports three cases. The first, that of a child of 3, was of rheumatic diathesis. The attack was ushered in with headache, sore throat, nausea, but no vomiting. Temperature ranged between 102 and 104 F. On the third day, the eruption appeared on the lower limbs and rapidly spread over the entire body. Some blebs became necrotic. On the sixth day, the child could not distinguish objects placed in front of its eyes. There was a trace of albumin in the urine; there was no blood from the mucous membrane or bowels. Recovery was slow. Fully four weeks elapsed before the purpura disappeared. The other two cases, in children aged 8 and 9 years, respectively, were mild and followed a course similar to the first, but the symptoms were less severe.

Medical Record, New York.

July 1.

14 *Correction of Nasal Deformities by Subcutaneous Operations. J. O. Roe, Rochester, N. Y.
15 *Actinomycosis of the Lung. E. F. Ingals, Chicago.
16 *Poisoning by Wood Alcohol. A Case of Complete Blindness (Transitory), With Recovery of Vision. C. Koller, New York.
17 *Aspects of the Cancer Problem. G. B. Massey, Philadelphia.
18 *Treatment of Spastic Constipation. A. Albu, Berlin, Germany.
19 *Inebriate Manias; A Medicolegal Study. T. D. Crothers, Hartford, Conn.
20 Advanced Scholarships and Morbid Mental Conditions; Some Clinical Cases. W. L. Howard, Baltimore, Md.

14. Correction of Nasal Deformities by Subcutaneous Operations.—Roe describes the operative technic employed in correcting seven cases of extreme or unusual deformity of the nose, due to disease or accidents of various sorts. The underlying principle of Roe's methods consists in doing as much of the work as possible subcutaneously, so as to avoid scarring of the skin, and he has been able to develop this plan to a remarkable degree. The "before and after" appearance of the patients is illustrated by a series of twenty-one photographs. Roe points out the importance to the individual of having such deformities corrected, and his results show that by the exercise of sufficient ingenuity and the most careful attention to detail it is possible to relieve patients of a disfigurement which forms a source of embarrassment to them, often amounting to positive torture.

15. Actinomycosis of the Lung.—Ingals describes a case in which the etiology is obscure, as the patient had not come into contact with diseased cattle. On incising a swelling in the right interscapular space, a quantity of grayish pus escaped, which on examination was found to contain actinomycosis fungi. The general symptoms were indefinite, as well as the pulmonary signs in the region of the abscess. The author says that the disease in its earlier stages may be divided into pleuropneumonic or bronchopneumonic varieties, while later on the lesions are so complex that it is often impossible to classify them. In pleuropneumonic actinomycosis the invasion occurs from without, but sooner or later the two forms run into each other, the pleuropneumonic extending inward, until the bronchi are involved or the bronchopneumonic progressing until the pleura is affected. Ingals' case was of the pleuropneumonic type, and the question arises whether the infection could have occurred through some forgotten scratch or pimple, or through the unbroken skin. The disease is likely to be mistaken for pulmonary tuberculosis, gangrene, malignant disease, syphilis, and hydatid cysts. The differential diagnosis and prognosis are discussed, and treatment with iodid of potassium in large doses combined with general tonic measures is said to offer the best chances of cure, though there is but little hope when secondary infection with pus cocci occurs.

16. Poisoning by Wood Alcohol.—Koller describes the case of a man of 42, suffering from acute, total blindness. The loss of sight had come on during the second night after taking about two ounces of whisky, a quantity which subsequent analysis showed contained about 20 c.c. of wood alcohol. The visual disturbance rapidly progressed, until about thirty-six hours later he was completely blind. On ophthalmoscopic examination, the optic nerves presented the picture of a neuroretinitis of moderate intensity and in the macular regions were dispersed numerous, yellowish, bright, shining spots similar to the picture described as choroiditis guttata. Potassium iodid, hot baths and good nourishment were prescribed, and six months later the right eye showed complete recovery of function, except a moderate diminution of visual acuity, and the left eye presented marked though moderate concentric contraction of the field, considerable diminution of central vision and absence of perception for green.

17. Some Aspects of the Cancer Problem.—Massey urges a wider diffusion among the public of our present knowledge concerning the disease. The public should be instructed as to the deplorable results of delay, whereby what was at first a strictly local process is permitted to become generally diffused. It is urgently to be desired that the government and wealthy private individuals should subsidize research laboratories devoted to the study of this question, as the private means of investigators are usually inadequate. In regard to treatment, Massey says that nearly 100 per cent. of external and semi-external growths can be positively cured in their early stage by cauterization, particularly by the electrochemical methods of destructive sterilization.

18. Treatment of Spastic Constipation.—Albu says that it has of late years been recognized that there is a type of the disease in which the gut is in a state of spastic contraction. At least 25 per cent. of the cases of constipation in women belong to this variety. Treatment of constipation due to spasm is naturally very different from that of constipation dependent on atony, but the diagnosis is often difficult or impossible. The patients are usually neurasthenic or hysterical individuals, who may exhibit spasm in other regions of the body, such as cardio spasm, pharyngeal spasm, etc. The intestinal spasm is not continuous and gives rise to sensations that may range merely from a feeling of discomfort to positive colics. The contracted knots of the intestine may be palpable as tender sausage-shaped masses, and rectal examination may reveal a spastic condition of the sphincters. The feces sometimes assume the characteristic ribbon or lead-pencil shape. The treatment comprises the avoidance of all irritation of the intestine, especially massage, and the use of soothing and relaxing measures, such as warm baths, hot applications to the abdomen, warm oil enemas, belladonna, nonirritating, gruel-like diet, and rectal bougies.

19. Inebriate Manias.—Crothers cites numerous instances in which men who had for years been moderate drinkers developed delusions of various sorts which prompted them to commit or to attempt murder, suicide, and other crimes.

Boston Medical and Surgical Journal.

June 29.

21 *Frequency, Prognosis and Treatment of Lobar Pneumonia in Infants and Children. H. Koplik, New York.
22 Acetonuria in Non-Diabetic Surgical Cases. J. C. Hubbard, Boston.
23 Toxic Degeneration of the Lower Neurons. J. E. Donley, Providence, R. I.

21. Lobar Pneumonia in Infants and Children.—Koplik says that the pneumonia of infancy and childhood as compared to that of the adult presents certain differences in its course which should impress the physician. In certain epidemics, meningeal symptoms seem to predominate, especially in those cases in which the apices of either lung are involved. In other epidemics, pneumonia with meningeal symptoms is not so frequent. In children, pneumonia is more apt to be followed by purulent pleurisy, especially below the age of 4 years, than by pleurisy with effusion, as in the adult. During fifteen years he saw 839 cases of pneumonia of all kinds and types. Of these cases 582, or 69 per cent., occurred before the end of the first two years of life. Of the 839 cases mentioned 436 occurred in male and 403 in female children. The right lung is mostly affected, and the upper lobe of the right lung rather than the lower lobe of the left lung is mostly involved. The prognosis of lobar pneumonia in infants and children will vary as to the age, severity and kind of infection, as to the amount of lung involved, and the presence or absence of complications. Generally speaking, the prognosis as to age is best below 10 years. The younger the child, the greater the danger. The season of the year also influences mortality. In the winter months, when the epidemic is at its height, the mortality is greatest, and in the spring and summer months it is lowest. This is due, possibly, to the great virulence of the infection. Complications also influence the prognosis. In infants and children a complicating pericarditis is fatal. Other complications, such as otitis, pleurisy, empyema, do not materially influence the prognosis in infants and children if recognized early and treated on sound principles. Lobar pneumonia, being an acute infectious disease, absolutely self-limited in its course, uninfluenced by any mode of specific treatment that we know of, it should be the duty of the physician to manage a case of lobar pneumonia in an infant or child very much on the same principles as he would manage a case of any other infectious disease, such as typhoid fever, with a certain allowance for the duration of the disease and the severity of the infection.

New York Medical Journal.

July 1.

24 Varicella Gangrenosa, with Report of a Case. F. Kieffer, Fort D. A. Russell, Wyo.
25 *Improved Method of Making Fresh Blood Mounts. G. R. Plummer, Key West, Fla.
26 Primary Jugular Bulb Thrombosis in Children, as a Complication of Acute Purulent Otitis Media; Report of Cases. F. McKernon, New York.
27 Six Lectures on Diseases of the Blood. J. M. Swan, Philadelphia. I. Technic.
28 Scientific Spirit versus Commercialism in Medicine. W. L. Conklin, Rochester, N. Y.
29 Etiology of Bradycardia. J. E. Greiwe, Cincinnati.
30 How Far Shall We Go in Performing Multiple Operations at One Sitting? H. A. Royster, Raleigh, N. C.
31 Fibroma of the Sheath of a Tendon. F. Torek, New York.

25. **Improved Method of Making Fresh Blood Mounts.**—Plummer's method is the same as that proposed by Hayem, except that he does not make use of the forceps. He accomplishes the same result by holding the cover-slips together with a dab of hot sealing wax.

St. Louis Medical Review.

June 24.

32 *Clinical Studies at Mount St. Rose. W. Porter, St. Louis.
33 Rupture of the Gall Bladder (Spontaneous and Traumatic; with and Without Operation)—An Historical Review of 273 cases. B. M. Ricketts, Cincinnati.

32. **Clinical Studies of Tuberculosis.**—Porter offers the following practical deductions made at the bedside based on the study of a large number of cases: 1. The progress and extent of the local lesions do not go, *pari passu*, with the general condition in pulmonary tuberculosis. 2. Posterior lesions are most aggressive. 3. The number of bacilli is not indicative of the stage of the disease or of its progress. 4. Hemorrhage is not always harmful. 5. Autoinfection is an indication for the use of salt solution. 6. Large doses of creosote are not indicated. 7. Night sweats may be controlled by giving an ounce of whisky just before the time of their occurrence, which, of course, must be determined beforehand. 8. Heart tonics, given in the early stages with increased lung expansion, encourage the pulmonary circulation. 9. Alterative expectorants are of value in the first and second stages. Other points discussed by Porter are the mechanical treatment of hemorrhage; the control of the fever and cough; value of the spinal douche, and the personal equation of the medical attendant.

Lancet-Clinic, Cincinnati.

July 1.

35 The University an Important Factor in the Community. E. G. Zinke, Cincinnati.
36 Clinical Value of Autopsies. F. P. Anzinger, Springfield, Ohio.
37 Treatment of Ophthalmia Neonatorum. C. T. Souther, Cincinnati.
38 Cholecystitis. J. L. Wiggins, East St. Louis, Ill.

Annals of Surgery, Philadelphia.

May.

39 *Actinomycosis. A. D. Bevan, Chicago.
40 *Cerebral Tumor. J. E. Owens, Chicago.
41 *Retrosternal Accessory Thyroid Tumor. H. D. Collins, New York.
42 Transthoracic Resection of the Lower End of the Esophagus. W. Meyer, New York.
43 *Gastroenterostomy and Pyloroplasty. W. B. Cannon and J. B. Blake, Boston.
44 *Resection of the Middle Third of the Stomach for Carcinoma of the C cudder, Boston.
45 Surgical to Gastric Dilatation. A. M. P
46 Gunshot V C. Connell, Salida, Colo.
47 *Hydrocele in the Female. A. E. Halstead and C. P. Clark, Chicago.
48 *Tuberculosis of the Testicle. I. S. Haynes, New York.
49 Rupture of the Tendon of the Biceps Flexor Cubiti. W. W. Keen, Philadelphia.

39. See abstract in The Journal, Jan. 28, 1905, page 317.

40. **Cerebral Tumor.**—Owens describes a case of cerebral tumor—in the right parietal region—occurring in a woman, aged 30, which was removed in two stages by the osteoplastic method, with subsequent wiring of the bone flap and the introduction of a gold plate. A notable feature during the operation was the profuse hemorrhage from the scalp. In spite of the fact that the head was encircled with an elastic band, hemorrhage persisted until the scalp at the pedicle of the flap was loosened for the purpose of enclosing the pedicle in an elastic ligature. As there was no tendency toward bone union in the skull, and as it was impossible to prevent the reappearance of a hernia cerebri, which first appeared a few days after the operation, the following final operation was performed: Drilling the skull and inserting a 22-carat, thin gold plate beneath the edges of the bone and over the cerebral protrusion. A silver wire was introduced, the flap was pressed into as close apposition as possible, and the wire twisted. The edges of the scalp wound were freshened with scissors, the scalp sutured, and a dry dressing with gauze drain applied. Three months after the operation the patient felt quite well, her appetite was good and she slept well. Otherwise her condition was the same as before operation, except that she was not troubled with headaches or vomiting. The wound had healed nicely, and no portion of the gold plate was visible.

41. **Retrosternal Accessory Thyroid Tumor.**—A case of this kind requiring removal and terminating fatally is cited by Collins. The patient, a woman, aged 47, had a globular cystic tumor about one inch in diameter to the right, but close to the median line of the neck, overlying the thyroid cartilage. The tumor had been present for nineteen years, and in the last two or three years increased considerably in size. Lately there had also been some difficulty in breathing, but no difficulty in swallowing. Under general anesthesia, the cyst was pealed out of the gland tissue. Instead of finding a simple spherical mass, the globular head of the cyst had a tail or backward prolongation about a half inch in diameter, extending along the right side of the trachea and esophagus. Two small cysts were shelled out from the left lobe of the gland. A sinus persisted, discharging freely. Fifteen months after the operation, the sinus was dissected out and was found to terminate in a cavity lying on the vertebral column at about the level of the sternal notch. Below, and apparently a continuation of the termination of the sinus, lay a discrete mass, three inches long and measuring about an inch and a half transversely and also antero-posteriorly. This mass lay just to the left of the median line, terminating below behind the arch of the aorta. The mass was shelled out and was found to be pure thyroid tissue with many colloid cysts and numerous calcareous deposits. On the fourth day, a lobar pneumonia developed in the right middle lobe, finally involving the entire right lung, and eight days after the operation the patient died.

43. **Gastroenterostomy and Pyloroplasty.**—Cannon and Blake present the results of an experimental study by means of the Roentgen rays of gastroenterostomy and pyloroplasty as surgical methods of obviating non-malignant pyloric stenosis. This discussion is brought forward from clinical sources, from recent physiologic investigation, and from observations on animals on which the operations mentioned had been performed. The stomach is not a passive bag. During digestion the cardiac end slowly contracts, pressing its contents into the pyloric end. Over the pyloric end, during digestion, peristaltic waves are continually running, churning the food with the gastric juices and forcing the chyme into the intestine. Observations on the functionating human stomach show that as it empties it shortens, especially along the greater curvature. Therefore, the part of the stomach lowest when the organ is full or relaxed is not lowest as it empties. The pylorus then becomes the lowest point. Even if "gravity drainage" occurred, the pylorus is the natural outlet, so long as the stomach retains its power of contracting. After an ordinary meal, the peristalsis of the pyloric end of the stomach makes the contents of this part more fluid than the contents of the cardiac end. Because peristaltic waves move toward the pylorus, the intragastric pressure is three or four times greater at any pylorus than in the cardiac end. Observations on large cats with gastroenterostomy openings of various sizes at various parts of the stomach showed that unless the opening, or stoma, was in the antrum (i. e., close to the pylorus) the food, even when fluid, was pushed through the pylorus rather than through the stoma. With peristalsis only in the pyloric end of the stomach, with the intragastric pressure much greater at the pylorus than elsewhere in the stomach, and with the food in the pyloric end normally more fluid than that in the cardiac end, the food is forced into the intestine through the pylorus and not through the artificial opening, when both ways are offered. Circulation of the food through the pylorus to the duodenum and back to the stomach through the anastomosis has been repeatedly observed, but it was not followed by the clinical symptoms of the "vicious circle." The circulation was observed best when the stomach was very full. The stretching of the stomach separates the lips of the stoma and draws the intestinal wall into line with the gastric wall. The openings into the intestine at the stoma then become mere slits, and act like waves, permitting the entrance, but preventing the exit, of the food. The clinical symptoms of the "vicious circle" have been observed in animals in which a kink of the intestine has been found just distal to the anastomosis. Kinks at this point can not be straightened by peristaltic activity because the circular fibers of the intestine are cut at the nearby stoma. It is important that food be mixed with the secretions poured into the duodenum; these juices are highly effective in digestion, and also neutralize the acid chyme. If food leaves the stomach by the stoma, it is not mixed with these secretions. Jejunal ulcers after gastroenterostomy may be due to the presence of acid in a region in which the inorganic acid is not normally found. From the above considerations, it was concluded that the stoma should be large and as near to the pylorus as possible; that the circulation of the food be rendered less probable by avoidance of overeating, and that, so far as possible, kinks be obviated by attaching a narrow band of the distal gut to the stomach for several centimeters beyond the stoma, thus permitting peristalsis to become an effective force. The probability of a circulation of the food whenever the pylorus is left open, the non-mixture of the food with the digestive and neutralizing fluids in the duodenum, and the ever-present danger from kinks in gastroenterostomy do not make the operation an ideal one. In pyloroplasty (preferably the Finney operation) these complications are avoided, and a too rapid exit of the food through the pylorus is prevented by rhythmic segmentation of the food in the duodenum, an activity which, in part, replaces the functions of the pylorus, and also mixes the food with the pancreatic juice and the bile.

44. **Carcinoma of the Stomach.**—The case reported by Scudder is of interest because carcinoma of the greater curvature of the stomach is unusual. The growth did not infiltrate the submucosa, as is commonly the case with pyloric carcinoma. It had attained considerable size without causing many symptoms of gastric disturbance, for neither the pyloric nor the cardiac portions of the stomach were invaded. An end-to-end anastomosis was done, using an interrupted Connell suture. The technic of the operation was very greatly facilitated by the employment of clamps, according to the methods of Kocher, Hartman, Mayo and Moynihan. Ten months after the operation, the patient was still enjoying good health. Her age at the time of operation was 37. The diagnosis was confirmed microscopically. The feeding of the patient immediately after operation was as follows: She was fed for about one week on nutrient enemata containing milk, three ounces; one egg; salt solution, one ounce. A nutrient enema was given every eight hours. Each morning a cleansing enema was used thoroughly in the lower bowel. On the fourth day she was allowed water by mouth; on the ninth day, liquids; on the tenth day, soft solids.

47. **Hydrocele in the Female.**—Halstead and Clark report a case of a colored woman, 42 years of age, who, subsequent to the birth of her second child, eighteen years previously, noticed a mass in the right inguinal region, extending from the external abdominal ring into the right labium majus. It was slightly larger than an egg, oblong in shape, and was irreducible. It was tense, elastic, and very tender. A diagnosis of strangulated hernia was made, an operation advised and immediately performed. The tumor was found to be separated from the skin by a tough, adherent fascia. It contained an ounce and a half of a pale, straw-colored fluid. The diagnosis was changed to hydrocele of the canal of Nuck. The sac was freed from the surrounding tissue and from the round ligament, with which it was intimately connected, ligated at its highest point, and removed. Three layers of the abdominal wall were sutured, as in a Bassini operation for inguinal hernia. The round ligament was fastened in the inguinal canal by means of buried sutures. The skin incision was closed by silkworm gut sutures in the usual way.

48. **Tuberculosis of the Testicle.**—From a study of a personal case and other cases reported in the literature, Haynes concludes that the results from epididymectomy are more favorable than the best results obtained from castration, for in twenty epididymectomies there were only two deaths, one probably from tubercular kidney and the other from spinal disease. The much dreaded psychologic state following double castration occurs so very infrequently that this possibility can be disregarded entirely.

The Laryngoscope, St. Louis.

May.

50 Modern Methods of Accessory Sinus Treatment. H. H. Curtis, New York.
51 Antrum of Highmore; Removal of the Greater Part of Its Inner Wall Through the Nostrils for Empyema. O. T. Freer, Chicago.
52 *Proper Position of Patient in Operation for the Removal of Adenoids Under General Anesthesia. C. R. Holmes, Cincinnati.
53 Middle Ear Suppuration and Its Complications. H. F. Tod, London.
54 Acute [illegible] and the Mastoid Operation in Children. W. A. [illegible]
55 *Mastoid [illegible] Therefor in Acute Suppurative [illegible] Mastoid Symptoms. C. Jackson, Pittsburg.
57 Adenoid Curette. St. Clair Thomson, London.
58 Post-Nasal Forceps. St. Clair Thomson, London.

52. **Position of Patient in Removing Adenoids Under General Anesthesia.**—For the past fourteen years Holmes has proceeded as follows: The foot of the operating table is elevated slightly above the level of the head. The child, after thorough preparation, is anesthetized in the recumbent position. The scalp is done up firmly in a towel wrung out of antiseptic solution. When complete anesthesia is obtained, the chloroform mask is removed and the mouth gag (Holmes) introduced, and, while the child is still lying on its back, the hypertrophied faucial tonsils, if present, are liberated by a blunt dissector from any adhesions which may bind them to the faucial pillars. The child is then quickly turned on its left side, the left arm and shoulder are drawn back so that

the former lies on the table behind the child, the right arm is grasped near the shoulder joint by an assistant on the opposite side of the table, who lifts that half of the shoulder girdle away from the chest so as to secure ample breathing space and at the same time to steady the child. The mouth gag is reintroduced into the right side of the mouth by the principal assistant, who manages the gag and slightly extends and steadies the head, the face is brought even with the left edge of the table or even slightly over the edge, and the operator, equipped with an electric forehead mirror and seated on a stool of medium height on the left side of the table, removes the adenoid hypertrophy quickly and thoroughly with the Gottstein curette, or some modification of that instrument, and subsequently examines the nasopharynx with the index finger of the left hand and removes with curved scissors and forceps any shreds or tags of the growth, or of the pharyngeal mucous membrane that may have been stripped up, as may rarely occur. The faucial tonsils are then removed, if necessary, with the cold snare or, if soft and ragged, with the curette, the adenectomy, having been thoroughly done so quickly as to allow an ample emergence from under the influence of the anesthetic. As soon as the hemorrhage ceases, the patient is rolled over into the supine position, the left cheek cleaned from the few flecks of blood that are on it, the towel removed from the head, and he is carried to his bed from which he is released the next day, to remain in his room in the hospital for three or four days. At the end of this time, all danger from a possible secondary hemorrhage is over and a healthy granulating surface has covered the wound and can resist to the utmost any accidental infection that might be encountered in the street or in the home. By this method of performing the operation, it will be observed that the position of the patient adds nothing to the ordinary dangers of the anesthetic, the force of gravitation does not add to the burden of the heart, the neck is straight, the respiration is not embarrassed by "embracing" the chest or "fixing" the arms, or by the pharynx filling with blood which is likely to find its way into the windpipe. That the position of the head is such that all the hemorrhage finds its way out of the nose or, when that becomes blocked by soft clots, out of the mouth, the inner surface of the left cheek forming the floor over which it travels to the left angle of the mouth. In this way, the field of operation is kept so clear that the operator can at all times see the posterior pharyngeal wall or can easily clear it with a wad of cotton on a sponge holder and can detect and remove any shreds that tend to make the operation imperfect, and the amount of blood lost can be accurately appreciated as it drops into a white stone receiver on the floor between the feet of the operator and none can find its way into the stomach to deceive the surgeon as to the volume of the hemorrhage and to annoy the patient after recovery from the anesthetic by producing emesis and possibly a secondary hemorrhage excited by the latter.

55. **Mastoid Operation.**—Jackson maintains that the opening of the mastoid is justifiable in acute purulent otitis media, in the absence of symptoms of mastoid envolvement, under one or more of the following conditions: When the discharge shows no sign of abatement after having persisted for a period of eight weeks, more or less, as judgment in the individual case may dictate; usually less in streptococcal infections; when there are occasionally, slight temperature rises, irritability of temper, malaise, fetid breath, etc., otherwise unaccounted for; when the social position of the patient makes it certain that the ear lesion will become chronic from neglect; in violent suppurations which threaten the hearing, if not the life, to delay is dangerous; when dependence on drainage through the canal becomes hazardous for any reason, such as swelling of the canal; when patients are going into remote districts or on a sea voyage, to allow them to run the risks of defective drainage is unwise; when cerebral or labyrinthine symptoms, such as headache, nausea, vomiting, vertigo, etc., are present, even though drainage seems ample, for the risk of delay here is great. If not due to actual pyogenic extensions, posterior drainage will promptly terminate the danger. In closing, Jackson offers the following propositions:

1. If an acute suppurative otitis media be operated on before inflammatory processes have worked lasting pathologic changes in the ear, we can in practically every case cure the patient—that is, stop the discharge, restore hearing, cure or prevent tinnitus. After inflammatory exudates have worked permanent changes, no surgeon on earth can restore hearing, or cure tinnitus. Cure the discharge, he probably can in almost every case. How? By doing a radical operation. Then why not do a simple mastoid in the first place?

2. To look over the text books and the periodical literature, one would suppose that the only pyogenic extension of purulent otitis media is by way of the mastoid cells. Yet, we all see occasional cases of intracranial extension through the tympanic roof. Are we then justified in considering mastoid empyema the only indication for opening the mastoid? May we not say that it is at times demanded solely for posterior drainage to prevent intracranial pyogenic extension?

3. The risks of operation are practically nil. The risks of postponement are great. To operate after an acute pyogenic invasion has infected the arachnoid, pia, and fluids is a forlorn hope.

4. May we not also say that opening the mastoid for posterior drainage and cure of acute suppurative otitis is justifiable to prevent loss of hearing, to prevent the patient drifting into a chronic suppurative otitis media, with its years of dread and misery, its pernicious anemia, leucocytosis, tinnitus, deafness, facial palsy, brain abscess, meningitis?

Physician and Surgeon, Ann Arbor.

May.

59 Differential Diagnosis and Treatment of Pott's Diseaes. J. Ridlon, Chicago.
60 Pathologic Fatigue and Its Treatment. I. H. Neff, Pontiac, Mich.

Texas Medical News, Austin.

May.

61 Outside View and Criticism of Medical Character and Legislation. J. H. Bell, San Antonio, Texas.
62 Death from Chloroform Anesthesia. W. Keiller, Galveston, Texas.

Journal of Medicine and Science, Portland, Maine.

May.

63 Paralysis in Children. N. J. Gehring, Portland.
64 Treatment of Nervous Insomnia. G. Meier, New York.

The Ophthalmic Record, Chicago.

May.

65 Injuries from Bursting of Locomotive Water and Oil Gauges. C. D. Conkey, Superior, Wis.
66 Interstitial Keratitis. J. W. Hildrup, Philadelphia.
67 Parinaud's Conjunctivitis. O. A. Griffin, Ann Arbor.
68 Papilloma of the Conjunctiva. R. H. Johnston, Baltimore.
69 Case Simulating Toxic Amblyopia. J. W. Pancoast, Philadelphia.

Colorado Medicine, Denver.

June.

70 What is Doing in America in the Fight Against Consumption. A Zederbaum, Denver.
71 Sources of Infection in Tuberculosis. W. C. Mitchell, Denver.
72 Mixed Infection of Phthisis. G. R. Pogue, Greeley.
73 Fever of Phthisis; Its Etiology, Sequels and Treatment. J. F. McConnell, Colorado Springs.
74 Suggestions to the General Practitioner Regarding the Successful Practice of Medicine. J. F. Kearns, La Junta.

Western Medical Review, Lincoln, Neb.

May.

75 He's Only a Doctor. P. E. Plumb, Gothenburg, Neb.
76 Surgical Enthusiasm; Is It Declining? S. C. Beele, David City, Neb.

Journal of the Association of Military Surgeons of the United States, Carlisle, Pa.

July.

77 Needs and Advantages of an International Congress of Military Surgeons. N. Senn, Chicago.
78 Camp Sanitation. H. A. Arnold, Ardmore, Pa.
79 United States Naval Medical School. R. A. Marmion, U. S. N.
80 Military Hygie[illegible] [illegible] Practical Study in the Regular Arm[illegible] R. Smart, U. S. N.
81 Field Medical [illegible] Gilchrist, U. S. A.

Southern Medicine and Surgery, Chattanooga, Tenn.

June.

82 Tuberculosis Cutis. J. M. King, Nashville, Tenn.
83 Eczema—Its Symptomatology. Etiology and Diagnosis. T. W. Murrell, Richmond, Va
84 Treatment of Eczema. F. H. Beadles. Richmond, Va.
85 Diphtheria. J. P. Blankenship, Maryville, Tenn.

Providence Medical Journal.

May.

86 Annual Address Before the Providence Medical Association. G. S. Mathews.
87 Francis Joseph Gall. J. E. Donley, Providence, R. I.
88 Bacteriology of Diphtheria. F. P. Gorham.
89 Municipal Control of Diphtheria. C. V. Chapin, Providence, R. I.

The Medical Age, Detroit, Mich.

May.

90 Preliminary Report of a Case of Lichen Scrofulosorum. N. E. Aronstam, Detroit, Mich.
91 [illegible] H. E. Randall, Lapeer, Mich.
92 [illegible] arly Treatment of Otitis Media. N. C. [illegible] Tenn.

Medical Fortnightly, St. Louis, Mo.

May 25.

93 Differential Diagnosis of Ureteral Calculus from Pain. B. Robinson, Chicago.
94 Relation of Man to Nature (A Study Prompted by "Testimonies of the Sepulchres"). A. S. Ashmead, New York.
95 "Give and Take of Service." F. P. Norbury, Jacksonville, Ill.
96 General Treatment of Nervous Diseases. A. D. Young, Oklahoma City.

Buffalo Medical Journal.

June.

99 Review of Tuberculosis Problem. DeLancey Rochester, Buffalo, N. Y.
100 Metrorrhagia in Interstitial Nephritis. C. G. Cumston, Boston, Mass.
101 Treatment of Acute Otitis Media. W. S. Renner, Buffalo, N. Y.

Journal of Medical Society of New Jersey, Newark.

May.

102 Notes and Observations on the Etiology and Pathology of Lobar Pneumonia. H. S. Carter, New York.
103 Symptoms and Diagnosis of Acute Lobar Pneumonia. N. B. Potter, New York.
104 Treatment of Lobar Pneumonia. N. R. Norton, New York.
105 Considerations of Facial Spasm. J. L. Corning, New York.
106 Plea for a More Careful Examination in Rectal Cases. A. H. Lippincott, Camden, N. J.
107 Congenital Heart Disease. E. Holmes, Englewood.
108 Municipal Milk Inspection with a Note on Tuberculous Milk. W. S. Green, Camden.
109 Can Outbreaks of Measles be Controlled? T. N. Gray, East Orange, N. J.
110 Case of Meningitis (Typhoid or Cerebrospinal), Illustrating Difficulties of Early Diagnosis. J. E. Moore, Bridgton, N. J.
111 Intravenous Use of Formalin in Bacteriemia. H. A. Pulsford, South Orange, N. J.

The Canadian Journal of Medicine and Surgery, Toronto.

June.

112 Th [illegible] Health in Acquiring an Educa- [illegible] troy.
113 Th [illegible] Especially Postnasal Catarrh.

Fort Wayne Medical Journal-Magazine.

May.

114 Medical Expert Evidence: Is a Radical Change in the Present System Advisable? J. Morris, Jr., Indiana.

Albany Medical Annals, Albany.

June.

115 Public Health Laboratory. H. D. Pease.

Journal of the Mississippi Medical Association, Vicksburg.

June.

116 Race Suicide. J. W. Young, Grenada.
117 Tetanus of the Newborn, with Report of Three Recoveries. M. J. Alexander, Tunica.
118 Summer Diarrhea of Infancy and Childhood, with Recent Investigations and Findings. T. C. Sexton, Laurel.
119 Medical Ethics. N. L. Clarke, Meridian.

New York State Journal of Medicine, New York.

June.

120 President's Address. H. Van Hoevenberg, Kingston, N. Y.
121 Bacteriologic Findings in the Spinal Fluid of Fifty Patients with Cerebrospinal Meningitis. T. W. Hastings, New York City.
122 Few Considerations in the Treatment of Various Cardiac Conditions. A. Lambert, New York City.
123 Treatment of Acute Lobar Pneumonia. R. Van Santvoord, New York City.
124 Case of Miliary Tuberculosis. R. E. Mitchell, Middletown, N. Y.
125 Food and Drug Adulterations. C. I. Redfield, Middletown, N. Y.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

June 17.

1 *Acute Abdominal Symptoms. W. W. Cheyne.
2 Dilatation of the Gall Bladder Simulating Ovarian Cyst. A. Doran.
3 *Surgical Notes on Tuberculosis of the Kidney. H. A. Kelly.
4 Constriction of the Ureter. K. W. Monsarrat.
5 Value of the Use of a Shadowgraph Ureteric Bougie in the Precise Surgery of Renal Calculus. E. Fenwick.
6 *One Hundred Consecutive Laparotomies for Intussusception in Children. P. B. Clubbe.
7 *Curability of Hernia at all Ages by Operation. E. Deanesly.

1. **Acute Abdominal Symptoms.**—Cheyne discusses the differential diagnosis of what is called an acute abdominal illness, taking, in their order, pain, tenderness, abdominal rigidity, vomiting, collapse, rigor, pulse, temperature, gas, general condition of the patient, previous and after history, distension of the abdomen, and relative frequency. During the last three years, the total percentage of these acute abdominal cases admitted to the St. Thomas Hospital was as follows: Appendicitis and its complications, 37 per cent.; intestinal obstruction, 24 per cent.; intussusception, 15 per cent.; perforations of the alimentary tract, 11 per cent.; pelvic and gynecologic cases, 6 per cent.; abdominal abscesses, other than of the appendix, 3 per cent.; remainder, 4 per cent.

3. **Tuberculosis of the Kidney.**—Among the alternatives to be borne in mind in making a diagnosis of tuberculosis of the kidney, Kelly mentions the following:

1. Is the organism found the smegma bacillus? How was the urine secured? Was it by voiding or by catheterization?
2. Given the tubercle bacillus in the mixed urines, from which side does it come? Determine by catheterization the appearance of the ureteral orifice and the thickened ureter.
3. Is the opposite side entirely free from disease? Bear in mind that a simple pyelitis is not infrequent in the opposite kidney.
4. Bear in mind that the opposite ureter may show marked thickening (periureteritis) and yet the kidney be free from tuberculosis.
5. Note carefully to what extent the bladder is affected as having an important bearing on the operation and the subsequent treatment.
6. Determine the urea coefficient of the opposite kidney. Is it able to support life?
7. Look carefully for disease elsewhere. Is there a tuberculosis of the genital organs? Is there any pulmonary or glandular tuberculosis?
8. In injecting guinea-pigs remember that tubercle bacilli may pass out of the bladder, if your patient has phthisis, without injury to the kidney.
9. Remember that the enlarged kidney found in the loin may be the one functionally enlarged and, therefore, the only sound organ. Twice has such a kidney doing all the work of the body been taken out. There is a great risk of making this mistake.

6. **Intussusception in Children.**—Clubbe has performed 100 laparotomies for intussusception in children, with 63 recoveries and 37 deaths. The relative frequency of the various forms was as follows: Ileocecal, 64 patients, 43 cured, 21 died; ileocolic, 12 patients, 7 cured, 5 died; double, 20 patients, 11 cured, 9 died; colic, 3 patients, 2 cured, 1 died; enteric, 1 patient, 1 died. Clubbe employs the side incision, except when the mass is in the transverse or descending colon, when the incision should be made in the middle line, the umbilicus being the center of the cut. To close the abdomen, he nearly always uses through-and-through silkworm gut sutures with a Reverdin's needle. After the operation, the patients are given morphin, 1/40 to 1/20 grain, which is repeated, if necessary. Strychnin is given hypodermically until the immediate shock passes; sometimes salines. Within twelve hours, the colon is washed out with a weak solution of permanganate of potash, which nearly always produces a bowel movement.

7. **Curability of Hernia at All Ages.**—During the course of three years, Deanesly performed 142 hernia operations on 130 patients, in twelve of whom operations were performed on both sides. The youngest patient was 3 months, the oldest 70 years. Thirty-four patients were under 15 years, and 11 over 50 years. Of those under 15, 14 were infants under 2 years. Excluding strangulated cases, there was only one death, from pneumonia in an infant of 18 months old after a double operation. Eleven operations were for femoral hernia, all the rest for inguinal hernia. Of the latter, 3 were "direct," the remainder of the ordinary oblique variety. In 15 cases the patients could not be traced beyond one year, and their condition is unknown; but all were told to present themselves in case of return of the hernia. The remainder were all communicated with two years after the operation, and of these a few had died, without recurrence, from various causes unconnected with the hernia. Recurrence has occurred in 6 cases only, in every case less than twelve months after the operation. All six were cases of inguinal hernia, the femoral hernias having been found sound at the end of two years. Of the six relapses, in one case, a woman with a violent chronic cough, a small ventral hernia formed at the upper end of the scar. Three were ordinary inguinal herniæ, of moderate size, in healthy young men. One was a direct inguinal hernia in an elderly man. One was a small inguinal hernia in a boy of 8. This patient was operated on again, and remains free from recurrence fifteen months after the second operation. In all these cases, except the first, in which it was an ordinary ventral hernia, the relapse precisely resembled the original hernia, and a new inguinal sac of peritoneum had been formed. In these cases it is probable that the original pouch had not been completely obliterated, owing

to a faulty performance of the original operation, and thus rendered the formation of a new hernia possible. In no case was the new hernia as large or as troublesome as the original one, and in all it was easily controlled by a truss.

The Lancet, London.

June 17.

8 Indications for Operation. Morison.
9 Forty Cases of Ureteral Calculus in which the Roentgen Diagnosis was Confirmed by the Recovery of the Calculus. C. L. Leonard.
10 Advantages of a Purin-free Diet. W. A. Potts.
11 Case of Infantile Splenic Anemia. S. G. Scott.
12 *Rapid General Myasthenia Gravis. H. W. Dodd.
13 *Simple Technic for Enumeration of Organisms in Fluids. W. H. C. Forster.
14 Seven Cases of Beriberi. P. N. Gerrard.
15 Fatal Case of Precipitate Labor. H. E. Rayner.

12. **Rapid General Myasthenia Gravis.**—The case reported by Dodd and Woodwark was most typical, and showed such a rapid progress that in four weeks, from a strong, healthy man, the patient became so extremely weak that he actually fell and could not raise himself. The onset of the trouble appeared to have followed an attack of influenza. A difficulty he had in feeding himself is believed to have added somewhat to his rapid increase in weakness. His mental condition was remarkably acute; there was a certain depression of spirits and a tendency to suspicion. He was treated with the usual tonics, but failed to improve. He remained under treatment for ten days, when he disappeared.

13. **Simple Technic for Enumeration of Organisms in Fluids.**—The method described by Forster is a modification of the technic introduced by A. E. Wright for the estimation of the number of living organisms in a given culture. The following is the apparatus required: Three sterile diluting pipettes; three sterile watch glasses; eight agar slopes numbered from 1 to 8 consecutively; eight gelatin slopes numbered from 1 to 8 consecutively, and a vessel containing sterile water. The stem of the pipette is graduated in ten divisions of five cubic millimeters each, the remaining graduation marks indicating 450 cubic millimeters and 500 cubic millimeters, respectively. The safety chamber is dispensed with, the shank of the pipette being merely bent to a right angle in the blow-pipe flame. The steps of the operation are as follows:

> Four hundred and ninety-five cubic millimeters of sterile water are measured into each watch glass. This quantity is obtained by filling the pipette up to the 500 cubic millimeter mark and withholding five cubic millimeters when injecting into the watch glass. From the water to be examined five cubic millimeters are removed with the pipette—care being taken not to soil the pipette above the five cubic millimeter mark—and added to the contents of the first watch glass. This gives a dilution of 1 in 100. The contents of the watch glass are then thoroughly mixed with the pipette, and from this dilution 100 cubic millimeters (obtained by filling twice up to the 50 cubic millimeter mark, interspacing with an air bubble) are planted out in the gelatin and agar tubes numbered 3. Similarly, 10 cubic millimeters are planted out in the tubes numbered 4. From the 1 in 100 dilution five cubic millimeters are then transferred to the second watch glass, giving a dilution of 1 in 10,000. With the same pipette 100 cubic millimeters and ten cubic millimeters of the original water are planted out in the tubes numbered 1 and 2 respectively. The first pipette is then laid aside and another one is taken in hand. The contents of the second watch glass are thoroughly mixed and 100 cubic millimeters and ten cubic millimeters are planted out in the tubes numbered 5 and 6. From the 1 in 10,000 dilution five cubic millimeters are transferred to the third watch glass giving a dilution of 1 in 1,000,000. The third pipette is now taken in hand, and after thorough mixing 100 cubic millimeters and ten cubic millimeters of this dilution are planted out in the tubes numbered 7 and 8. If it is only desired to ascertain the limits within which the number of organisms per cubic centimeter must lie then the tubes are simply incubated in the vertical position and the results are interpretated as follows: Growth in tube 1. but not in tube 2, would place the number of organisms per cubic centimeter between 10 and 100. Growth in tube 2, but not in tube 3, would place the number of organisms per cubic centimeter between 100 and 1.000, and so on, the limits adopted being those in general use for the classification of waters by the number of contained organisms. If it is desired to know the actual number of organisms in terms of 10, 100, 1,000, etc., it will be necessary to distribute the water planted out over the surface of the medium and to incubate the tubes in the sloping position in order to prevent the accumulation of organisms at the foot of the slope. If preferred the quantity of water planted out may be spread over the surface of the medium with a glass rod, but in actual practice I have found this to be unnecessary as in the case of the larger quantities even distribution can be obtained by manipulation of the tube, while in the case of the smaller quantities sufficient distribution can be obtained by means of the pipette at the time of planting out.

Journal of Tropical Medicine, London.

June 1.

16 Inquiry into the Etiology and Pathology of Beriberi. H. Wright.
17 Case of Hematuria. A. F. Cole.

Glasgow Medical Journal.

June.

18 Report and Description of Specimens of Five Cases of Uterine Myoma and Three Cases of Ovarian Dermoid Tumor. J. K. Kelly.
19 *Appendicitis in Children. R. C. Dun.
20 The Amylolytic Action of Urine. G. H. Clark.

19. **Appendicitis in Children.**—Dun emphasizes the fact that appendicitis is not an uncommon disease in children; that it does not at first tend to be of a more serious type than in adults, but that the slighter cases are often difficult to diagnose and, therefore, apt to be overlooked. Dun urges a closer attention to recurrent attacks of colic, and points out the frequency with which diarrhea and bladder irritation are associated with inflammation of the appendix in childhood. When several slight attacks of appendicitis have occurred, the removal of the appendix is the best and safest treatment. When localized peritonitis is present, operation should be delayed until the quiescent period is reached, but pus formation must always be suspected and carefully watched for during the waiting period. Should abscess formation take place, immediate operation is demanded, but undue risks should not be run in attempting the removal of a firmly adherent appendix under such circumstances. The administration of purgatives and opium is not without risk, and is best avoided.

Annales des Mal. Génito-urinaires, Paris.

Last indexed page 139.

22 (XXIII, No. 5.) Etude clinique sur la pathogénie et la sémiotique de l'albumine. E. Lancereaux.
23 (No. 6.) *La séparation endovésicale des urines. Sa valeur au point de vue du diagnostic. T. Tuffier and A. Mauté.
24 *Rectal Palpation in Diagnosis and Treatment of Acute Gonorrheal Urethritis. Le toucher rectal. P. Lebreton.
25 Des uréthrites aigues non-gonococciques. T. Vannod (Berne).
26 De l'électrolyse dans le traitement des rétrécissements de l'urètre. Alcayde.
27 (No. 7.) Les affections tuberculeuses des reins (of kidneys). L. Bernard.
28 *Dispositif nouveau pour redresser les images cystoscopiques (to straighten view through cystoscope). P. Denis.
29 (No. 8.) Fistules rénales consécutives à la néphropexie. F. Gardner (New York).
30 De l'intervention opératoire dans les néphrites et dans certaines affections médicales du rein (of kidney). A. Yvert.
31 Quelques mots sur l'onanisme. C. Féré.
32 La rachistovainisation dans les maladies des voies urinaires. P. Héresco and L. Strominger.
33 (No. 9.) Traitement des prostatiques en rétention incomplète chronique aseptique avec dilatation de la vessie (dilatation of bladder in treatment of hypertrophied prostate). Nicolich (Trieste). See page 588 of last volume of THE JOURNAL.

23. **Intravesical Separation of Urine from the Kidneys.**—Tuffier's experience has been favorable with the intravesical segregators of Luys and Cathelin, and he thinks that this mode of examination has won a definite place for itself. To obtain the most instructive findings, the conditions should be reproduced identically at each test, and the patient should take nothing but milk during the preceding four or five hours. He analyzes the findings when the segregated urine is examined every half-hour. It is impossible to locate a tumor in the kidney exclusively from the functional urinary findings. Many causes are liable to reduce the output of a kidney occasionally, such as mere hysteric nephralgia alone. There is considerable sediment, even in normal urine, after introduction of a separator into the bladder. The ease and simplicity of the technic and the instructive data obtained by the method commend it for general adoption on condition that the points in which it fails are appreciated, that allowance be made for them, and that too much is not expected from mere endovesical segregation of the urine.

24. **Rectal Palpation in Acute Urethritis.**—Lebreton has practiced rectal palpation in 200 cases of acute gonorrheal urethritis. The infection was less than a week old in 73; less than two weeks in 31; less than three weeks in 18; less than a month in 21; less than two months in 30; less than a year in 24, and from this to two years in 3. He found that the posterior urethra was invaded much oftener than he had supposed, and very early. The proportion in the first week was 58.9 per cent.; in the second week, 77.42 per cent., and by the third or fourth week fully 88.8 per cent. Palpation and mas-

sage through the rectum are useful for diagnosing and treating such cases, especially with "expression" of the prostate. If pressure with the finger fails to elicit pain in the region of the prostate, massage is useless and even dangerous, as it irritates a previously more or less sound organ. The same is true when pressure elicits pain only on the median line, showing that the prostatic urethra alone is involved. The massage should never be done without preliminary copious lavage of the bladder. The palpation and massage should be guided by the patient's sensations, keeping it within bounds so as not to cause very much pain.

28. **To Straighten View Through Cystoscope.**—The cystoscopic picture is received on a small square of ground glass with a line traced horizontally across it. When the glass is turned over and the line held parallel to the sagittal plane, the picture showing through on the smooth side of the glass is identical with the true picture in the bladder.

Berliner klinische Wochenschrift.

34 (XLII, No. 21.) *Zur Bewertung des Tremors als Zeichen des Alkoholismus. Fürbringer.
35 *Zur Kenntnis der Hernia uteri inguinalis und der histologischen Veränderungen verlagerter Ovarien. R. Birnbaum.
36 *Hydrotherapie bei Syphilis und Haut-Krankheiten (cutaneous affections). C. Bruhns.
37 Balneologic Laboratories in Health Resorts.—Ueber Aufgaben und Ziele der balneologischen Laboratorien in den Kurorten. E. H. Kisch.
38 *Zur Behandlung der Herzverletzungen (injuries of heart). A. Neumann.
39 *Large Doses of Olive Oil in Treatment of Stomach Affections.—Zur Frage der Verwertbarkeit grösserer Dosen Olivenöl in der Therapie der Magenkrankheiten. O. Blum. (Commenced in No. 20.)
40 *Cytorhyctes luis Siegel. F. E. Schulze.
41 Zur Diagnose und Behandlung des Kehlkopfkrebses (laryngeal cancer). G. Finder.
42 *Marmorek's Antituberkulose-Serum (official report). E. Lewin.
43 The Red Cross and Prevention of Epidemics.—Der preussische Landesverein vom Roten Kreuz und seine Mitwirkung bei der Abwehr der Seuchengefahr. Kimmle.
44 Schillers Beziehungen zur Natur und Heilkunde (relations to natural science and medicine). C. Posner. Id. R. Greeff.

34. **Tremor as Sign of Abuse of Alcohol.**—Fürbringer states that in more than half of 500 persons examined the tremor observed had no alcoholic foundation. Severe tremor usually coincided with alcoholism, the proportion of probabilities in favor of the latter being 91.5 per cent., but the moderate degrees proved to be no criterion as to the liquor habit. He noticed that the female sex displayed a greater tendency to tremor than the male.

35. **Inguinal Hernia of Uterus.**—Birnbaum has been able to find only 23 cases in the literature. He reports in detail a case personally observed. It was distinguished by the fact that the ovary was included also in the hernia. The genital organs had rather an infantile character, and the patient had never menstruated, although married for eleven years. The hernia was first noticed at about the age of 5. It grew to be somewhat larger than a walnut and could be pushed down into the labium.

36. **Hydrotherapy in Cutaneous Affections and Syphilis.**—Bruhns expatiates, in the course of this article, on the benefit frequently derived from hot baths in pruritus, especially hot sitz baths in pruritus ani.

38. **Treatment of Heart Wounds.**—Neumann's experience has been in favor of drainage of the pericardium rather than immediate suture. In a case which he reports in detail, a man of 53 had been stabbed in the right ventricle, and the edges of the wound were so inflamed and the general condition so desperate that suture was out of the question. He passed a needle through the right edge of the wound in the pericardium and of the wound in the myocardium, from without inward, bringing the needle out through the other side of the wound. Two threads were introduced in this way, a sponge was applied over the wound and the ends of the thread tied over the sponge. The tampon was thus outside the heart and was held firmly by the threads. The patient succumbed in forty-five minutes, but the technic fully established its value. In another case, the stab wound was in the fifth and sixth interspace, and the costal cartilage and intercostal artery had been severed. The knife had entered the pericardium, which was full of partly coagulated blood. As no lesion could be found in the heart proper, he inserted a long strip of gauze, passing it around the heart as high as the auriculo-ventricular boundary. The heart tolerated this drainage without disturbance; the pulse was quiet and regular by the next day. The gauze was removed on the twelfth day, and the patient has been in good health for the twelve years since. He has never exhibited symptoms typical of adhesion of the sheets of the pericardium, although in the first four years there were occasional attacks of vertigo, etc., suggesting irritation of a hystero-epileptic center.

39. **Large Amounts of Olive Oil in Treatment of Stomach Affections.**—Blum reports experience with large amounts of olive oil in treatment of stomach affections at Ewald's clinic. It was found that only a few persons were able to take the oil without repugnance. In cases of hyperchlorhydria, with or without hypersecretion, the oil had a favorable action by reducing the values of acid. It promoted natural movements of the bowels and general nutrition. No favorable influence could be discovered in cases of ulcer in stomach or duodenum or organic stenosis of the pylorus. The oil is absolutely contraindicated in extreme stenosis. In one case of pyloric spasm the oil failed entirely. The particulars of the 18 cases in which a course of oil was tried are given in full. Renewed hemorrhage followed in 2 cases of ulcer, possibly owing to some irritating action from the oil on the ulcer.

40. **Siegel's Cytorhyctes Luis.**—Schulze gives the particulars of the parasite which Siegel has recently reported as found in smallpox, foot and mouth disease, scarlet fever and syphilis. A high-power microscope, magnifying 1,000 times, is necessary to detect them. They show up best in the kidneys three weeks after inoculation of rabbits with syphilis. They range in size from .5 to 2 microns, and are seen as flattish, long, pear-shaped bodies, actively motile, curling into a ring occasionally. The smaller ones are rounder, with a flagellum. They take the hematoxylin-azure stain, and this reveals from 2 to 16 nuclei.

42. **Antituberculosis Serum.**—See news columns, page 52.

Centralblatt f. Chirurgie, Leipsic.

Last indexed XLIV, page 1969.

45 (XXXII, No. 18.) *Ein neues Verfahrren zur Radikal-Operation grosser Schenkelbrüche (large femoral hernia). E. A. Polya.
46 Uber Orchidopexie bei inguinalem Kryptorchismus. de Beule.
47 (No. 20.) Zur Technik der Amputatio penis (Witzel's technic). P. Janssen (Bonn).
48 (No. 23.) *Zur Blasennaht nach der Sectio alta (suture of bladder). C. Hofmann.
49 (No. 24.) *Zur Technik der Knie-Gelenk-Arthrodese (scraping out knee joint). H. Turner (St. Petersburg).

45. **Operation for Large Femoral Hernia.**—Polya gives the details of a technic for obliterating the femoral canal by plugging it with the entire thickness of the sartorius muscle. The operation has been performed twice at von Herczel's clinic at Budapest with very satisfactory results. One of the patients succumbed not long after to an intercurrent infectious disease, and the autopsy demonstrated the perfect anatomic results obtained by this technic. The incision is in the shape of a T or inverted L. The saphena is ligated and severed, and the hernial sac tied and buried if possible. The sheath of the sartorius is slit across below the level of the canal, and the sartorius muscle is cut a trifle above this slit. The proximal stump of the muscle is then worked through the saphenous opening above the large vessels and sutured, after being pushed as far into the canal as it can be made to go. Two or three stout catgut threads are passed through Poupart's ligament, the implanted sartorius and the sheath of the pectineus, and the muscle is pulled deep into the femoral canal as the threads are tied. A flap is made by cutting the fascia lata, and it is turned back and sutured to Poupart's ligament, to the sheath of the pectineus and to the sartorius below.

48. **Suture of Bladder After Suprapubic Incision.**—Hofmann has long been preaching the necessity for systematic treatment of the bladder to reduce inflammation before attempting surgical intervention on the organ. It consists of absolute bed rest, possibly for several weeks, with antiseptics internally,

hydropathic packs, and rinsing of the bladder. He used to believe that tamponing of the prevesical space and the permanent catheter were indispensable, but he has learned that the well-sutured wound is always water-tight for the first few days. If the prevesical space is partially obliterated by suturing the bladder to the abdominal wall, adhesions form between the outer layer of the bladder wall and the fascia in the abdominal wall, just as in similar operations on stomach or intestines. In his numerous experiences, he has never had any infiltration of urine when these precautions were taken. In case it should occur, the pain would at once give the alarm and the prevesical space could be tamponed then as well as at first. He has also discarded the permanent catheter. Spontaneous urination is sometimes observed, but generally the catheter must be used twice a day, especially at first, as the fixation of the bladder to the abdominal wall entails some residual urine. The permanent catheter must have an unfavorable influence on the healing of the wound; it is far preferable to introduce the catheter anew twice a day. An approximately normal condition of the urine before the operation is indispensable to the success of this technic.

49. **Arthrodesis of Knee.**—Turner describes the technic of the operation which aims to induce ankylosis in an abnormally lax joint. Hagen-Torn has been perfecting the technic, and Turner here gives illustrations of two instruments, resembling "safety razors," which much facilitate the operation. He also mentions a number of minor points, commending Textor's arc incision as the simplest and most convenient. His results have been excellent in his 15 cases.

Centralblatt f. Gynaekologie, Leipsic.

Last indexed XLIV, page 1969.

50 (XXIX, No. 18.) Zur Lehre vom Epithelioma chorioektodermale. L. Pick.
51 Increase of Hemagglutinins in Childbed.—Vermehrung der Hämagglutinine im Wochenbett. F. Schenk.
52 (No. 19.) Lutein Cells During Pregnancy.—Zur Frage der [illegible] in atretischen Follikeln während [illegible] L. Seitz.
53 *Be[illegible]r intra-uterinen Fremdkörper (foreign bodies). C. Knoop.
54 *Zur Methodik der Sterilisation. K. Reifferscheid.
55 (No. 20.) *Zur Alexander-Adams'schen Operation. H. Fuchs (Kiel).
56 *Zur Anatomie und Genese der Kopfnickergeschwulst des Neugeborenen (congenital tumor in sterno-mastoid muscle). L. Pincus.
57 "Instrument und Methode Bossi" (reply to v. Bardeleben). Hammerschlag.
58 (No. 21) *Künstliche Sterilisierung (artificial sterilization). R. Chrobak.
59 Meine Eklampsie-Theorie (reply to Liepmann). A. Dienst.
60 (No. 22.) Gibt es ein Epithelioma chorioektodermale des Eierstockes (of ovary)? F. Michel.
61 *Experimental Study of Contractions of Isolated Uterus.—Experimentelle Methodik des Uterus im allgemeinen und die Registration der Kontraktionen seiner Hörner im besonderen. E. M. Kurdinowski.
62 (No. 23.) *Importance of Physical Properties of Child for Birth Mechanism.—Bedeutung der physikal. Eigenschaften, etc. H. Sellheim.
63 *Sectio cesarea an der Moribunden. H. Füth.
64 Die Methoden zur Herbeiführung der weiblichen Sterilität (artificial sterilization). Rissmann.
65 *Zur Dilatations—Frage. de Seigneux (Geneva).
66 (No. 24.) *New Pelvimeter.—Ein neuer Beckenmesser zur direkten Bestimmung des geraden Durchmessers des Beckeneinganges. A. Solowij (Lemberg).
67 *Zur Therapie der Hyperemesis gravidarum. R. v. Uhle.
68 Zur Frage der inneren Sekretion von Ovarium und Placenta. G. Fleck.

53. **Foreign Bodies in Uterus.**—Knoop relates the history of a hair pin which had been introduced in some way into the uterus four years after the menopause, but caused no disturbances for six years. Symptoms then developed suggesting cancer, but the discovery and removal of the hair pin restored conditions to normal. In another case a wad of crumpled newspaper was expelled during childbirth. It must have been in the vagina or cervix for some time before the onset of pregnancy.

54. **Artificial Sterilization.**—Reifferscheid reports a case in which excision of a piece of each tube, 2 cm. in length, and burying the uterine stumps under a fold of peritoneum failed to prevent conception later. Thread had been used instead of catgut to make the results more permanent. The operation had been done at the time of a Cesarean section.

55. **Alexander-Adams Operation.**—Fuchs reviews his experience with 220 cases in which this operation was performed. Time has gradually limited more and more its field of usefulness, so that the indication for it now is only simple, movable retroflexion in the rare cases in which any operation is required. For this condition, however, it is ideal.

56. **Origin of Congenital Tumor in Sternomastoid Muscle.**—Pincus published, ten years ago, a monograph on obstetric injuries of the sternocleido muscle. In addition to those therein described, he calls attention now to a congenital tumor which he had occasion to observe recently in a child born spontaneously under normal conditions. The child died of diarrhea not long after birth, and the microscope showed that the muscle tumor was of intrauterine inflammatory origin, a process of chronic interstitial myositis.

58. **Artificial Sterilization.**—Chrobak discusses the various indications which justify artificial sterilization of a woman. Chronic nephritis is one of them, but psychic disturbances, he thinks, can scarcely be included in the list, or only exceptionally, and only after the most serious deliberation on the part of the psychiatrist in charge of the case. In regard to tuberculosis, he ranks the interruption of the pregnancy on the same plane as cancer of the uterus in this respect. Incipient, curable tuberculosis is aggravated by a pregnancy, and the latter should be terminated at once, just as no one would delay a moment to remove the pregnant uterus when certain of its cancerous degeneration. To allow the pregnancy of a woman in incipient tuberculosis to continue until there are prospects of a viable child is compatible only with the belief that pulmonary tuberculosis does not make gigantic strides during pregnancy—and this belief is contrary to his views and experience. In advanced tuberculosis, the question of artificial sterilization must be decided by the physician for each individual case. Injuries of the uterus may afford an indication in certain cases in which rupture is liable to occur during a pregnancy. His experience has been very unfavorable with organs thus weakened by previous traumatism or lesions of various kinds, and especially by extensive operations, such as the removal of multiple myomata. Artificial sterilization is preferable to allowing the necessity for abortion in such cases.

61. **Experimental Study of Contractions of the Uterus.**—Kurdinowski gives an illustrated description of the technic by which he is able to study the motor functions of the isolated uterus and to register the contractions of the cornua. The work was done at the physiologic laboratories at Leipsic and Zurich on rabbits anesthetized by rectal injection of chloral.

62. **Birth Mechanism.**—Sellheim states that the fetus assumes the form of a cylinder to the utmost possible extent during delivery, in order to reduce friction to the minimum. At the same time, and for the same purpose, it turns on its axis to adapt itself to the birth passage.

63. **Cesarean Section on the Moribund.**—Füth remarks that he knows of only two cases of Cesarean section in extremis, reports of which have been published in this century. He adds a third to the list. The patient had a heart affection, and as labor began the heart symptoms became extremely threatening. Cesarean section was done at once, when the symptoms took a favorable turn. The patient lived for several days. The benefit observed in this case after extraction of the child, he says, should encourage others in similar cases not to wait until death has actually occurred, but to undertake the section early, not only to save the child, but also in the interests of the mother.

65. **Instrumental Dilatation.**—Seigneux' instrument has four branches which fold together into a small compass. They are operated by a thumb screw in the handle, and a graduated scale allows oversight of the amount of dilatation realized. The branches are in three sizes, narrow, medium and broad. The set of narrow branches is used first, and then, as the cervix becomes dilated, the sets of larger branches are substituted in turn. The details of the instrument are shown in six illustrations.

66. **New Pelvimeter.**—Solowij's measure consists of a scissors-like instrument with graduated scale between the rings of the handles. The blades terminate in a pair of branching antennæ with rounding tips. The distance between the tips is registered on the scale between the handles. When introduced into the pelvis, the longer, rear branch fits against the promontory and the other branch against the symphysis.

67. **Treatment of Hyperemesis Gravidarum.**—Uhle reports a case of protracted incoercible vomiting during the third month of pregnancy, persisting for weeks even after entire suspension of food or medicines by the mouth. The uterus was in pronounced anteflexion. After failure of all other measures, and as a partial preliminary to artificial abortion, a colpeurynter was placed in the vagina just beyond the entrance and moderately filled, thus lifting the uterus by pressure from below. The result was the immediate suspension of the vomiting; the patient was soon able to take a little milk. The colpeurynter was removed at night, but on recurrence of the vomiting was replaced the next morning, with the same successful results. It was removed again at night and there was no further trouble, the pregnancy progressing to a normal termination.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

69 (XXXI, No. 21.) *Einiges über die drohende Epidemie der Genickstarre (cerebrospinal meningitis). v. Leyden.
70 *To Designate Location of Apex Beat.—Wie ist bei Untersuchungen, besonders bei Gutachten, die Herzspitze topographisch zu bestimmen? A. Kirchner.
71 *Die Neurasthenie in Arbeiterkreisen (among wage-earners). P. Leubuscher and W. Bibrowicz.
72 *Die Cyklodialyse, eine neue Glaukomoperation. Heine.
73 *Cause, Prevention and Treatment of Appendicitis and Perityphlitis.—Ursache, Verhütung und Behandlung des perityphlitischen Anfalls. F. Karewski.
74 New Ready-to-Apply Dressings.—Ein neuer Einzelverband und eine neue Tamponadepatrone. A. Heermann.

69. **Cerebrospinal Meningitis.**—The epidemic at Königsberg in 1865 is described as witnessed by von Leyden. He refers in particular to the fulminating cases in which persons were stricken and fell dead at their work. He does not approve of baths for adults, as the slightest touch is so painful; repose, ice bags and nourishment, with morphin subcutaneously, he thinks, should be the main reliance.

70. **To Designate Location of Apex.**—Kirchner recommends that the heart apex be located by its distance from the median line and not from the nipple line, as the location of the latter differs so widely in different persons. If the apex beat is not perceptible, the apex can be located by light percussion; sagittal percussion gives more accurate findings than radial.

71. **Neurasthenia Among the Working Classes.**—The various sanitariums conducted by the Berlin National Sickness Insurance Society have had 1,564 cases of neurasthenia in their care since the first was opened in 1894. Of this number, nearly 16 per cent. were typesetters, nearly 10 per cent. cabinet makers, and 5 per cent. locksmiths. These three trades thus supply nearly 32 per cent. of the total material. In only 5.7 per cent. of the total number were there alcoholic antecedents, and in only 0.7 per cent. abuse of tobacco. The patients were generally between 25 and 45 years of age, and in three-fourths the neurasthenia was undoubtedly acquired. Early and adequate sanitarium treatment gives satisfactory results.

72. **Cyclo-dialysis, a New Operation for Glaucoma.**—In this communication from Uhthoff's clinic at Breslau, Heine describes a means of opening communication between the anterior chamber and the suprachorioidal space. After incising the sclerotic near the limbus, the ligamentum pectinatum is slowly pierced with a stiletto. No vitreous humor follows the gradual withdrawal of the stiletto, but by the second or third day the intraocular tension will be found much reduced.

73. **Prevention of Appendicitis.**—Karewski concludes his monograph with the remark that clinical experience and autopsy findings all confirm the assumption that enterocolitis is the common cause of appendicitis. That consequently every intestinal catarrh should be regarded as a serious affection requiring careful treatment to prevent trouble at the appendix.

Monatshefte f. praktische Dermatologie, Hamburg.

Last indexed XLIII, page 1508.

75 (XXXIX, Nos. 7-8.) *Mykosis fungoides und Leukämie. M. Pelagatti.
76 (No. 9.) Zur Technik der Urethral-Injektionen. Vajda.
77 Bemerkungen zu Brandweiners Fall von neurotischer Haut-Gangrän (of skin). Kreibich.
78 (No. 10.) Dermatotherapeutische und urologische Beobachtungen (observations). Weltlaner.
79 Drei Fälle von Pruritus nach Tabak-Genuss (pruritus after smoking). Bottstein.
80 (No. 11.) Zur Histologie des Hauthorns (keratoma). C. Philip.
81 Fall von Mykosis fungoides. J. Ullmann (Palermo).
82 *Changes in Skin with Kidney Affections.—Hautveränderungen bei Nierenkranken. A. Jordan.
83 (No. 12.)Zur Anatomie des Präputiums. E. Delbanco (Hamburg). (Commenced in No. 11.)
84 *Zur Tabes-Syphilisfrage im Anschlusse an einige mit manifester Syphilis verbundene Tabesfälle. J. Guszman.
85 Zur Therapie der Impetigines. Honcamp.

75. **Fungoid Mycosis and Leukemia.**—Pelagatti reports a case of the association of these two affections, suggesting the nosologic identity of the two processes. The patient was a man of 53 who presented the typical picture of fungoid mycosis, while the blood and the postmortem findings testified to the existence of myelogenic leukemia. Histologic investigation of the efflorescences on the skin revealed the features characteristic of metastases of the morbid process involving the bone marrow. He presents numerous arguments to sustain this view of the close connection between the mycosis and the leukemia, and brings up and answers a number of objections that might be urged against this assumption that the fungoid mycosis is merely the localization in the skin of a general leukemic process. The first symptoms noted had been itching and spots on the skin two years before death.

82. **Changes in Skin with Kidney Affections.**—Jordan refers to 3 cases of rebellious excoriations, pustules, local edema, pruritus or an eczematous eruption, observed in persons under treatment for a kidney affection. Local measures proved ineffectual, but the skin lesions subsided as soon as the kidney functions were regulated. The rebellious cutaneous affections were of comparatively long standing, but, thanks to the treatment of the kidneys, conditions were soon restored to normal, as far as the skin was concerned. He suggests that certain dermatoses might be classed as "albuminuric dermatoses," amenable only to measures directed against the underlying kidney affection. He believes that the latter has the tendency to render the skin more sensitive, and thus favors the development of cutaneous affections.

84. **Syphilis and Tabes.**—Guszman insists on the necessity for examining for possible tabes every patient presenting the manifestations of tertiary syphilis. When this is done systematically, an incipient tabes may be discovered and arrested by suitable treatment.

Münchener medizinische Wochenschrift.

86 (LII No. 19, May 9.) Die Pathogenese des Ikterus. D. Gerhardt.
87 Differentiation of Various Albumins from Same Organism by Precipitin Reaction: "Biologic Test."Präzipitinreaktion, etc. G. Forssner.
88 *Zur Frage der atonischen Magenerweiterung (dilatation of stomach). C. Wegele.
89 *Haemonephrose und Nierenkrebs (cancer of kidney). C. Hueter.
90 *Zur Behandlung des Heufiebers (hay fever). A. Denker.
91 *Zur Behandlung der Leukämie und Pseudoleukämie mit Röntgen-Strahlen. F. Lommel.
92 Beitrag zur Wirkungsweise der Edebohls'schen Operation (mode of action). Scheben.
93 Einfluss der Vibration auf das Faradisations-Gefühl (sensation). V. Schlapfer.
94 *Zur chemischen Imitation der biologischen Strahlenwirkung (action of rays). J. Schlachta.
95 *Notiz über eine neue Form der Zählkammer (blood counting apparatus). K. Burker (Tübingen).

88. **Dilatation of Stomach from Atony.**—Wegele has had three cases under observation in which the symptoms indicated typical dilatation of the stomach, presumably from pyloric obstruction. The motor insufficiency was of the second degree. The patients recovered under merely internal and dietetic measures, and have been in perfect health for years. This outcome speaks decidedly against the assumption of pyloric obstruction, he thinks, and in favor of a mere atonic ectasia as the cause of the trouble. This is a rare condition,

but it certainly occurs sometimes, occasionally in connection with some actual lesion. An atonic condition is the greatest obstacle to the success of a gastroenterostomy, and favors the vicious circle. When water is poured into the stomach it is promptly expelled in siphonage in case of ectasia from stenosis, but when the ectasia is due to atony the water comes out slowly and deliberately. Another argument in favor of the assumption of atonic ectasia is the analogy between it and acute dilatation of the stomach after gross errors in diet, as also the paralysis observed at times after trauma and laparotomies. The stomach remains relaxed and enlarged even when empty. Wegele has appealed to a number of surgeons for their experience in this line, but has obtained scanty data. Ectasia without organic pyloric stenosis was noted only in exceptional cases and then as an accompaniment to gastroptosis or chronic spasm of the pylorus. Rigid pyloric spasm is frequently observed, and its prompt subsidence under the surgeon's eyes, but he knows of no instance of tonic contraction of the pylorus on record. Ectasia from stenosis may vary in its intensity at different times, and transient improvement may be noted, but permanent recovery from this form of dilatation has never been attained by internal treatment alone.

89. **Hemonephrosis and Cancer of Kidney.**—Hueter reports a case which demonstrates that a rupture can occur in a cystic kidney with consequent severe hemorrhage without perforation into the abdominal cavity. The fact that the kidney can be palpated does not exclude the presence of a large hydronephrotic sac. Another remarkable feature of the case was that no blood was found in ureter or bladder, although hematuria had been noted for two months before the trauma. The patient was a cabinet maker, 50 years old, who, as the result of an apparently insignificant traumatism, had ruptured a cystic kidney, causing considerable hemorrhage. The congenital hydronephrosis in the hilum had become a hematonephrosis. Hueter can find only three similar cases in the literature. The microscope revealed cancerous degeneration in the apparently sound part of the kidney—further evidence of the value of hematuria as a sign of malignant disease in this organ.

90. **Massage of Nose in Hay Fever.**—Denker reports that he has absolutely cured eight hay-fever victims by massage of the mucous lining of the nose. By this means he was able not only to cure an existing attack, but to prevent its recurrence in following seasons. He first anesthetizes the sensitive mucosa by swabbing it with a mixture of 1 part cocain and .01 part adrenalin in 10 parts distilled water, using a cotton-wound nose sound for the purpose. The massage is done with this sound dipped in a 10 per cent. antiseptic oil. He commences with slow, light stroking of the inferior turbinate, gradually increasing the rapidity and the pressure and passing to the middle turbinate, and thence, if possible, to the superior, returning over the mucosa of the septum. The massage is completed in two or three minutes at first and in from three to four as the patient becomes used to it. The procedure is repeated through each nostril every day, supplemented, if necessary, by instillation of diluted laudanum in the conjunctival sac. He thinks that it is more logical to remove the cause than to attempt to combat the established affection by antitoxin or otherwise.

91. **Leukemia and Roentgen Rays.**—Lommel reports three cases of leukemia, one was the lymphatic form in a new-born child, fatal in a few days. The parents were healthy, but the blood findings soon after birth were 1 white to 1.03 red corpuscles, and the spleen and liver were much enlarged from lymphoid tissue accumulations suggesting metastases. The second patient was a farmer of 27 with pronounced myeloid leukemia, who improved remarkably under Roentgen treatment. In sixty-five days the number of leucocytes dropped from 554,000 to 12,000, while the reds increased. The general health improved and the patient gained considerably in weight for a few months, and regarded himself as completely cured. Six months later, however, the blood findings showed again the myelogenic leukemic tendency, the number of whites having increased to 46,220, although the general health was apparently perfect. The patient was advised to take another course of Roentgen exposures. The third case was one of pseudoleukemia, with extreme anemia, in a 2-year-old boy whose mother and sisters also exhibited a leukemic tendency with enlarged spleens. He improved very much under Roentgen exposures, but succumbed to intercurrent pneumonia a few months later. The postmortem findings indicated that the Roentgen rays had induced marked curative changes in the spleen, but nothing was found to suggest that the circulating blood cells had been directly influenced by the rays.

94. **Chemical Imitation of Biologic Action of Rays.**—Schlachta's experiments have confirmed those of Werner, mentioned on page 1888 of the last volume of The Journal. They both found that oxidized lecithin had the same action in experiments on animals as radioactivated lecithin, that is, lecithin exposed to the action of radium or Roentgen rays. It is still open to question whether this action is due to the presence of oxygen or an alkali. A suspension of lecithin in water, heated for four hours in the warm bath, showed the same unmistakable action, although not very pronounced.

95. **New Form of Blood-Counting Apparatus.**—Bürker of Tübingen enumerates the drawbacks of the ordinary Thoma-Zeiss apparatus as the difficulty of making it work faultlessly, the liability to uneven distribution of the blood over the field, the dependence of the findings on the air pressure, and the small area of the counting surface. These are all avoided in the new apparatus, which is proving extremely satisfactory. An article on the subject appeared recently in *Pflüger's Archiv.*, page 426.

Gazzetta degli Ospedali, Milan.

Last indexed page 143.

96 (XXVI, No. 22.) Electricity of Human Body.—Sulla attivita elettrica del corpo umana. C. Garibaldi and F. Mariani.
97 *Sulla patogenesi dell' ateromasia adrenalinica e dell' ateroma in generale. N. Marini.
98 Sulle infezioni gastro-enteriche dei lattanti (in infants). V. Maggioni.
99 Eziologia del morbo di Little. O. Broglio.
100 Hernia of Bladder.—Contributo alle ernie vescicali diverticolari. A. Cernezzi.
101 Brace for Habitual Luxation of Shoulder.—Contentivo delle lussazioni abituali della spalla. G. Cajozzo.
102 *Angiospasmo periferico ed uremia. A. Caprio.
103 (No. 25.) *Di un nuovo metodo di sieroterapia delle sifilide. L. M. Bossi.
104 Relations Between Chloroform Anesthesia and Elimination of Ureic Nitrogen.—Sui rapporti fra cloronarcosi ed eliminazione dell' azote ureico. N. Federici.
105 Errors in Freund's Test for Sulphuric Acid.—Erroneita del metodo Freund per la determinazione dell' acido solforico. E. Pittarelli.
106 Peculiar Course of Epidemic Suggesting Staphylococcus and Streptococcus Infection.—Decorso epidemico e polimorfo di un infezione coi caratteri delle stafilococcie e streptococcie. G. Morelli.
107 *L' iodo nella tifoide. G. Campanella.
108 Sulla cura del tetano. A. Giannelli.
109 Eritema nodoso e porpora febrile. A. Valli.
110 *Post-typhoid Abscesses and Hypodermic Medication.—Contributo clinico sugli ascessi post-tifici e l'influenza su questi delle infezioni ipodermiche medicamentose. E. Basurgi.

97. **Causes of Atheroma.**—Marini has been experimenting on animals with adrenalin and thus inducing atheromatous degeneration. He explains the mechanism of its action and states that hypertension is the primary and efficient cause for both experimental and clinical endarteritis with atheromatous degeneration. The adrenalin induces the hypertension in the experiments. In the clinic the same effect is produced by toxic substances generated in the organism which have a peripheral vasoconstricting action. Nature strives to favor their elimination from the body by the hypertension induced.

102. **Peripheral Angiospasm and Uremia.**—The attack described by Caprio was evidently a form of uremia, an uremic equivalent. The peripheral angio-spasm was very pronounced, and the symptoms indicated impending acute edema of the lungs with acute valvular insufficiency. Leeches to the feet and mustard to the chest, with diuretics and a milk diet, soon restored conditions to the previous state.

103. **Serotherapy of Syphilids on New Basis.**—Bossi believes that Colles' law and Profeta's law both indicate that the placenta serves as a filter, preventing infection of a non-syphilitic mother from a fetus with a paternal inheritance of syphilis, and of the non-syphilitic fetus from a syphilitic mother. The filter thus offered by the placenta prevents in-

fection, but it allows the passage of immunizing substances that seem to confer immunity in each case. Bozzi consequently conceived the idea that the immunizing substances must be particularly abundant in the blood of women free from manifestations of syphilis who have just been delivered of a syphilitic child. He suggests this as a new basis for serotherapy of syphilids, adding that further material might be procured from the blood in the umbilical cord in cases of syphilides in the course of pregnancy. His experiences have been too limited as yet to be any criterion for the value of the method, and he urges others to try it on a larger scale.

107. Iodin in Typhoid.—Campanella attributes both antiseptic and antitoxic action to iodin, and describes a number of cases in which it proved extremely effectual in typhoid fever. He injected it hypodermically according to Durante's technic.

110. Post-typhoid Abscesses and Hypodermic Injections.—Basurgi announces as the conclusions of considerable experience and observation that the typhoid bacillus circulating in the blood is liable to display a pyogenic action at points of lesser resistance. Hypodermic medication is liable to cause slight injury, sufficient to serve as a point of lesser resistance, and an abscess may form at the site of the injection, even when every aseptic precaution has been taken. These abscesses are painless, but should be opened and evacuated at the earliest possible moment, after which they soon heal.

Riforma Medica, Palermo and Naples.

Last indexed XLIV, page 1816.

111 (XXI No. 15.) *Blood Pressure, Seated and Reclining, in Various Diseases.—Sulle variazioni della pressione sanguigna, etc. C. Gennari.
112 Lid Plastics with Flap from Brow.—Blefaroplastica a lembo frontale mediano. E. Moretti.
113 (No. 16.) Caso di pancreatite cronica indurativa con stomaco a clessidra. Glastroplastica. Guarigione. (With hourglass stomach. Recovery.) F. Purpura.
114 *Studii sperimentali sulla endocardite tubercolare. B. de Vecchi.
115 (No. 17.) *Contributo alla cura delle occlusioni intestinali. F. Gangitano. (Commenced in No. 15.)
116 *Early Diagnosis of Tabes.—Intorno alla diagnosi iniziale della tabe dorsale. G. Severino.
117 (No. 18.) *Sulla permeabilita della parete intestinale ai batterii (of intestinal wall). S. Rindone.
Action of Radium Rays on Rabic Virus.—L'azione dei raggi del Radio sul virus rabido in vitro e nell'animale. G. Tizzoni and A. Bongiovanni.

11. Variations in Blood Pressure with Position.—Gennari has been studying the variations in the blood pressure when the subject sits or reclines, comparing the findings in health and disease. In health, the pressure drops about 6 mm. as the subject sits up after reclining, while the pulse rate increases. In convalescents from typhoid or other infectious diseases or in severe anemia, the blood pressure drops and sometimes a dicrotic beat is observed, but the pulse shows marked increase, from 10 to 18 beats. The pulse rate becomes especially accelerated in typhoid, although the drop in the blood pressure is not very marked. In heart disease the pressure varies very little with the change of position. This differentiates organic heart trouble from the merely functional. In all his cases of neuroses of the heart the pressure became much reduced when the patient sat up, and the pulse became decidedly dicrotic, while these changes were very slight in case of organic disease.

114. Experimental Tuberculous Endocarditis.—De Vecchi has previously announced that the local presence of the tubercle bacillus is not necessary for the production of tuberculous endocarditis. The toxic products of the bacilli, associated with some slight trauma of the endocardium, are sufficient to produce the specific lesions. He has recently been studying the process that follows inoculation of a few tubercle bacilli into the cornea. The anatomic conditions there much resemble those in the endocardium. In both, the bacilli are unable to induce the formation of true tubercles, but they stimulate the tissues to a reaction which is apparently merely an ordinary, chronic inflammation.

115. Treatment of Intestinal Occlusion.—Gangitano relates the particulars of eleven cases representing different types of intestinal occlusion, to emphasize his plea for surgical interference in all cases if medical treatment fails. Even in apparently moribund cases the results may be unexpectedly favorable. Atropin should be tried after failure of other measures, if the case is not urgent. It was always well borne in his experience and proved useful sometimes even after operation. He insists on the advantages of evacuating the intestine through an opening made near the tract where the obstruction lies, with lavage afterward. He made an artificial anus in only one of the patients, but without benefit.

116. Diagnosis of Incipient Tabes.—Severino describes the course of a case in which incipient tabes was apparently arrested by mercurial treatment. He based his diagnosis principally on the absence of the Achilles reflex, the sluggishness of the pupil reflex and the marked lymphocytosis in the cerebrospinal fluid.

117. Permeability of Intestinal Wall.—Germs did not pass through the intestinal wall, in the experiments reported, except when there was some necrotic lesion extending through its entire thickness. Lesions merely in the serosa or muscle outside did not allow the penetration of germs.

118. Destructive Action of Radium Rays on Virus of Rabies.—Tizzoni describes two series of experiments which have attracted much attention. In the first, the virus was exposed *in vitro* to the action of the radium rays; in the second, animals were inoculated in the eye, or sciatic nerve, or under the dura mater with virus, and the part was then exposed to the rays for an hour a day for eight days. The results indicate that the radium rays destroy the virus of rabies both *in vitro* and in the living animal. In the animals the effect of the rays is the same whether the part inoculated was exposed to them or some distant region. The virus exposed *in vitro* evidently had been deprived of all toxic properties when injected into the eyes of animals afterward. When exposed only for a short time, it caused a slow, wasting, fatal affection, different in every respect from typical rabies. When animals inoculated in one eye with the virus were exposed at once to the radium rays, the virus was rendered harmless, even when only the opposite eye was exposed to the rays. Also, when the animal had been inoculated in the meninges or sciatic nerve, exposure of one eye sufficed to annul the toxic action of the virus anywhere in the body. He suggests that possibly virus attenuated by exposure to radium may prove an efficient material for Pasteur treatment. He hazards the suggestion that the radium rays disinfect or disintoxicate the entire nervous system when applied to the eye.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

DIE PALPABLEN GEBILDE DES NORMALEN MENSCHLICHEN KOERPERS UND DEREN METHODISCHE PALPATION. Nach eigenen Untersuchungen an der Leiche und am Lebenden. von Dr. Toby Cohn, Nervenarzt in Berlin. 1. Teil: Obere Extremitat. Mit 21 Abbildungen. Paper. Pp. 216. Price, 5.60 m. Berlin: Verlag Von S. Karger. 1905.

DIE KRANKHEITEN DES VERDAUUNGSKANALS (Oesophagus, Magen, Darm). Ein Leitfaden für praktische Aerzte. von Dr. Paul Cohnheim, Spezialärzt für Magen- und Darmkrankheiten in Berlin. Mit 17 Abbildungen. Paper. Pp. 247. Price, 5.60 m. *Berlin*: Verlag Von S. Karger. 1905.

THE SURGICAL ASSISTANT. A Manual for Students, Practitioners, Hospital Internes and Nurses. By W. M. Brickner, B.S., M.D., with 123 Original Illustrations. Cloth. Pp. 363. Price $2.00. New York: International Journal of Surgery Co.

TRANSACTIONS OF THE TENTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY, Held at Chicago, May 30-31 and June 1, 1904. Cloth. Pp. 431. New York: Published by the Society. 1905.

THE OFFICE TREATMENT OF RECTAL DISEASES EXPLAINED AND SIMPLIFIED. By R. D. Mason, M.D., Omaha, Neb. Illustrated. Third Edition. Cloth. Pp. 222. Price, $2.00. Minneapolis: Burton Co. 1905.

PHARMACOLOGY OF THE FLUID EXTRACTS IN COMMON USE. By J. S. Wright. Prepared especially for Students of Medicine. Leather. Pp. 225. Eli Lilly & Co., Indianapolis. 1905.

PSYCHIATRY. A Text-book for Students and Physicians, by S. Paton, M.D., Cloth. Pp. 618. Price $4.00. Philadelphia: J. B. Lippincott Co. 1905.

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Original Articles

INTRAVENOUS INJECTION OF ERGOT.

EFFECTS ON THE MAMMALIAN CIRCULATION.[*]

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Ergot is commonly supposed to produce a powerful and persistent contraction of blood vessels. This belief rests mainly on clinical evidence, which is not conclusive; even when the observations are correct, they generally admit of other explanations. For instance, the hemostatic action of ergot in postpartum hemorrhage is now referred to the contraction of the uterine muscle, rather than to a vasoconstriction.

It is also generally assumed that the vasoconstriction has been firmly established by experimental evidence. An inspection of any of the critical text-books of pharmacology, however, will suffice to show that different investigators have obtained variable results on mammals.

This caused us to undertake the present investigation, the original object of which was to determine, on dogs, the circulatory effects of the ergot preparations as found on the market, in therapeutic doses, normally and in the pathologic conditions in which the drug is recommended.

We intended to use the drug by intramuscular injection. The results were so slight that their investigation seemed unpromising. We, therefore, changed to the study of the effects of intravenous injection. This is also the method employed by all other investigators. It may be objected that the conclusions based on intravenous injection can not be applied to the therapeutic use of the drug. This objection we shall discuss later.

As we proceeded with our investigation we found that the results were extremely variable; indeed, we have obtained practically all the results of our predecessors, even the most contradictory.

To reconcile these contradictions and to find the conditions on which they depend, it was necessary to make a very considerable number of experiments under a great variety of conditions. About 350 injections of ergot were made on 38 animals.

METHODS.

We employed dogs in the experiments in which the animal is not named specifically.

These received a moderate dose of morphin and were anesthetized with ether during the operation, the smallest quantity being used which would keep the animal quiet. The blood-pressure tracings were taken with a mercury manometer, the connection being filled with 25 per cent. magnesium sulphate.[1]

Injections were made into the femoral vein, through a burette. The usual effective dose was from 0.02 to 0.04 gm. (from 1 to 2 c.c. of a 2 per cent. solution in normal saline solution) per kilogram of dog. (This would equal from 1.0 to 3.0 c.c. of fluid extract per man.)

The essential details of special experiments will be given in the text.

Intramuscular Injection.—These were made into the gluteal muscles.[2] Larger doses were employed than for intravenous injection. Three dogs were used. In two of these (one in shock), no effect whatever was produced, but these animals also failed to react to intravenous injection. In the third animal, three doses of 0.5 gm. per kg. body weight, each produced a slight, very short rise, not exceeding from 8 to 10 millimeters of mercury, reached in from 2 to 4 minutes and returning to normal within 10 minutes (Fig. 1). There is no indication of the primary fall which will be described for intravenous injection. This agrees with the results of Wood[3] and of Wertheimer[4] for hypodermic injections and with Wertheimer for intraperitoneal and intrapleural injections.

PHENOMENA CHARACTERIZING THE INTRAVENOUS INJECTION OF ERGOT.

When an effective dose of ergot is injected rapidly into the femoral vein of an animal, it produces the effects illustrated in Figure 2 and in many of the other tracings. (Exceptions will be discussed later.) There is a small, momentary rise of from 10 to 20 mm. (This is due to the mechanical effects of the injections, and occurs equally well when the same quantity of pure saline solution is introduced; it is often absent.) This returns promptly to normal, and is then followed by a sudden drop in the pressure. This fall is generally from 40 to 60 mm., but may be as much as 90 mm. It reaches its minimum in from 20 to 30 seconds.[5] This is again succeeded by prompt recovery in every case. The normal is reached in from 50 to 90 seconds.[5] In about a fourth of the injections (52/230), the pressure does not quite reach the normal; in the same number it returns to just about normal. In half the cases (126/230), it rises a trifle above normal—from 10 to 20 mm., generally not more than 10 mm. This maximum is reached in from one and one-half to two and one-half minutes.[5] In from *two to three minutes* this has again fallen to the original blood pressure.

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[*] From the Pharmacological Laboratory of Western Reserve University. Read in abstract at the meeting of the American Therapeutic Society, 1905.

[*] Reference to authors whose papers were not accessible to us will be found in Wood's Therapeutics, 11th Edition, page 749.

[1] We convinced ourselves that this played no part in the phenomena by comparing it with sodium sulphate in the same dog.

[2] Meltzer and Auer, Jour. of Exper. Med., 1905, vol. vii, pp. 1-20, have shown that the absorption is much more active from intramuscular than from subcutaneous injections.

[3] Wood, H. C.: Philadelphia Med. Times, 1874, vol. iv, p. 518.

[4] Wertheimer: Archiv de Phys., 1891, vol. xxiii, p. 558; 1893, vol. xxv, p. 297.

[5] The time is counted from the beginning of the injection.

COMPARISON WITH THE RESULTS OF OTHER INVESTIGATORS.

Our results agree with the descriptions of Holmes,[6] Koehler and Eberty,[7] Jacobj,[8] Kobert,[9] Mellin,[10] Wertheimer and Magnin[11] Pick,[12] Bradford and Dean,[13] Hemmeter[14] and *Wood.*[3]

The agreement applies to every detail, with the following exceptions:

Kobert, working with sphacelinic acid, does not mention the preliminary fall. This is probably a mere oversight.

Ergotinin Tanret (which probably contains mainly cornutin) has no effect. (Wertheimer, Koehler and Eberty).

Jacobj, working with chrysotoxin and sphacelotoxin, finds the secondary rise to exceed the normal somewhat, in cats, but not in rabbits. Kobert, on the other hand, finds the rise to be larger in rabbits. Neither investigator had sufficient material to make his conclusions binding.

Evidently, the fall of pressure is the most conspicuous and most constant result of the intravenous injection of ergot; it occurs in all animals observed: dogs, cats and rabbits, and to these we may add an experiment on a rooster. The secondary rise of blood pressure is small and short. The only authors who report a considerable, although short rise of pressure after ergot, are Kobert and Wood.

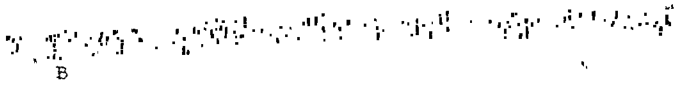

Fig. 1.—Intramuscular injection of ergot; 0.5 c.c. of the fluid extract per kilo, injected in the gluteal muscle at B. Time at B, 12:58; at C, 1:02.

THE EXTENT OF THE RISE OF BLOOD PRESSURE AFTER INTRAVENOUS INJECTION OF ERGOT.

This is a matter of some importance from a therapeutic standpoint.

Kobert, experimenting on rabbits with sphacelinic acid, noticed exceptionally a secondary rise of blood pressure to double the original; but this was only obtained from convulsive doses, and can not, therefore, be considered the ordinary effect of ergot.

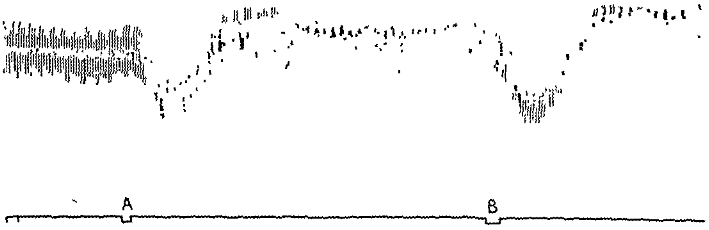

Fig. 2.—Typical results of the intravenous *injection of ergot.* Also comparison of two preparations, both of old ergot. Dose of each injection 0.04 gm. per kilo. A. Time, 10:39; 11 c.c. ergot injected. B. Time, 10:41, 11 c.c. ergot (wine) injected.

Wood's results present the best samples of a high rise. In his third experiment the pressure was raised by 70 mm. (*from* 90 *to* 160 mm.) in five minutes. Repetition of the injection was less effective. His fourth experiment gave analogous results.

These results are almost unique. Wood was evidently dealing with a preparation of unusual pressor efficiency. It is not impossible that this was due to a high content of cornutin, the convulsant alkaloid of ergot. Mellin[10] sometimes saw a rise of 40 mm. With the other investigators, it did not exceed 10 or 20 mm. Jacobj,[8] Hermanides[15] and Holmes[6] saw no rise whatsoever in a considerable proportion of their cases.

In our series of 327 injections, only 10 (3 per cent.) showed a rise above 20 mm.; in all but three of these the unusual rise could be attributed to causes other than ergot, with more or less certainty (recovery from shock; injection of large quantity of saline; recovery from anesthesia). Even in these it amounted only to 34-54 mm. of mercury.

The only instances in which the abnormal rise was certainly due to ergot occurred in Dog 6, the injection being made into the peripheral end of the femoral artery. In these three injections, the pressure rose by 28, 34 and 34 mm. in 3 to 6 minutes.

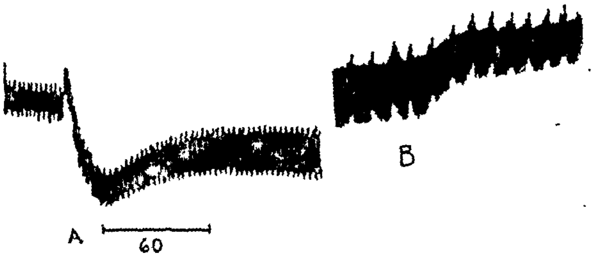

Fig. 3.—Different preparations of ergot. A is the old acetic extract, which tends to lower the blood pressure, 11 c.c. injected at 10:33½; B is a fresh fluid extract which tends to raise the pressure, 11 c.c. injected at 11:22.. These tracings illustrate the extreme lower and upper limit of the secondary rise. The dog and the doses are the same as in Figure 2. The space marked 60 represents sixty seconds.

THE VARIABILITY OF THE ERGOT PHENOMENA.

SUMMARY.

In our series of 327 injections, 51, or 16 per cent., produced no effect. These can be accounted for by the existence of shock, etc., and may be disregarded for the present.

Of the remaining 276 injections, 230 (84 per cent.) showed the primary fall. All of these returned toward normal; 52 (25 per cent. of 230) remained below the original pressure; 52 (25 per cent.) just reached the original; 126 (50 per cent.) showed a temporary rise above the original pressure.

Of the 276 active injections, 46 (16 per cent.) gave a rise without previous fall. The rise was prompt and short in 22 (8 per cent.); in 24 (8 per cent.) it was gradual and prolonged. The latter result was obtained only after destruction of the spinal cord.

A rise above the original pressure, with or without previous fall, occurred in 172 of the 276 injections (62 per cent.).

Comparing our results with those of some other investigators, we find:

	Our Series	Holmes	Mellin
Primary Fall	$\frac{230}{276}$ = 84 per cent	$\frac{21}{23}$ = 91 per cent	$\frac{6}{23}$ = 18 per cent
Rise above normal	$\frac{172}{276}$ = 62 per cent	$\frac{6}{23}$ = 26 per cent	

The results are seen to vary considerably, with different series of experiments, and within the same series. This depends on several causes: Differences in the preparations of ergot; in the dosage and the number of doses; in the animals; in the existence of the various forms of shock, etc. All these have a definite influence

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General Explanation: The base line in these illustrations represents zero pressure. So much space would be required to show the base line in some tracings with high blood pressure that this line has been omitted. The line is *dropped during* the *time* of injection. B. P.—Blood Pressure. All tracings are reproduced one-half the size of the original.

[6] Holmes: Hrch. de Physiol., 1870, vol. iii, p. 384.

[7] Koehler and Eberty: Virchow's Arch., 1874, vol. lx, p. 384.

[8] Jacobj: Arch. f. exp. Pathol. u. Pharm., 1897, vol. xxxix, p. 85.

[9] Kobert: Ibid, 1884, vol. xviii, p. 317.

[10] Mellin, G.; Skandinavisches Arch. f. Phys., 1904, vol. xv, p. 147.

[11] Wertheimer and Magnin: Archiv de Phys., 1892, vol. xxiv, p. 92.

[12] Pick: Arch. f. exp. Path. and Pharm., 1899, vol. xliii, p. 426.

[13] Bradford and Dean: Proceedings Royal Society, 1889, vol. xlv, p. 369 (*not consulted in the original*): Journal of Physiology, 1894, vol. xvi, p. 85.

[14] Hemmeter: Med. News, 1891, vol. lix, pp. 133, 152, 264, 494.

[15] Hermanides: Berliner klin. Wochen., 1880, pp. 598 and 617.

on the ergot effects and render their study peculiarly complex, but interesting.

COMPARISON OF DIFFERENT PREPARATIONS OF ERGOT.

The differences between the results of different investigators show that the particular preparation of ergot employed by them must have influenced their results. The frequent occurrence of a high rise in the experiments of Wood, and its comparative rarity in other series, can only be attributed to this cause. No definite conclusions can be reached, however, except that preparations which are relatively rich in cornutin and poor in the other ergot principles—such as the ergotinin of Tarret and the ergotin of Wiggers—do not produce the typical ergot effects, particularly the primary fall (Koehler and Eberty,[7] Wertheimer[4]); although they may cause a high convulsive rise of pressure, if the dose is large enough to cause actual convulsions. The ordinary fluid and solid extracts, made with an aqueous menstruum (Ergotin Bonjean) or with the addition of acid (Ergotin Yvon) produce the typical results. Jacobj[8] has also shown that these results follow the injection of the isolated chrysotoxin and sphlacelotoxin and secalintoxin.

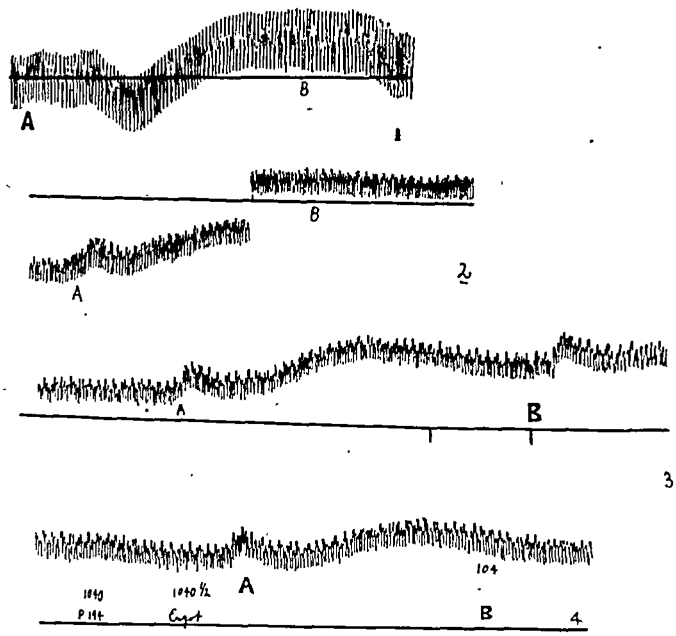

Fig. 4.—Influence of destruction of the spinal cord on the ergot phenomena: 1. Before the cord was destroyed. 2. Five minutes after destruction. 3. Fourteen minutes. 4. Seventeen minutes. The gradual and prolonged rise in 2 is probably due to recovery from shock; but the primary fall and fairly high secondary rise in 3 and 4 are true ergot effects. In 1, at A, 15.7 c.c. of ergot were injected at 10 :10; B, 10 :11. In 2, at A, 15.4 c.c. of ergot were injected at 10 :28. B, 10 :35. In 3, time at A, 10 :37, 14.4 c.c. of ergot were injected; at B, time, 10 :39 NaCl injected. In 4, time at A, 10 :40½, 15.4 c.c. of ergot were injected, at B, time, 10 :42.

As it was one of our objects to investigate the differences in the preparations actually found on the American market, and the influence of age, method of preparation, etc., we made a considerable number of experiments to this end. We will summarize these very briefly:

We compared aqueous infusions, tincture, wine, fluid extracts of different manufacturers, fluid acetic acid extract, and solid extract, using in all eleven different preparations. Three of these were fluid extracts of reliable makers, just purchased or kindly furnished by the manufacturers. One was an infusion of the latest crop of Spanish ergot, imported especially for this purpose and presented to us by Parke, Davis & Co. The other seven preparations were from 4 to 10 years old.

We may state at once that the method of preparation did not seem to have any influence on the effect, so far as we could judge. Indeed, all the preparations were qualitatively identical. Each of them produced a primary fall and a secondary rise, at least in some cases. They presented quantitative differences in their total effect, however, and in the relative tendency to produce a rise or fall. Much to our surprise, the age of the ergot does not make any difference. For instance, the infusion of the ergot of crop of 1899, preserved without special precautions, was about as active as that made from the crop of 1904. The older was rather the more effective of the two. All the old preparations showed a good fall and a relatively poor rise; but this may be a mere coincidence. The greatest tendency to rise was shown by some of the fresh fluid extracts; but others, of presumably equal quality, did not excel in this respect.

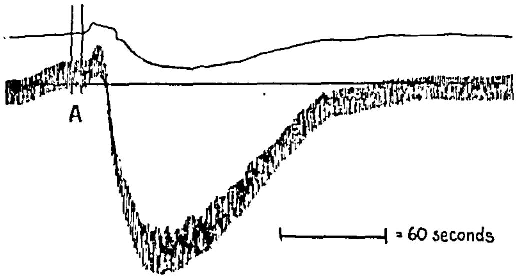

Fig. 5.—Simultaneous oncometer (upper) and blood-pressure tracings (lower). The two correspond in every detail. The oncometer tracing was taken from the kidney. This tracing also shows the largest fall which we obtained in any of our experiments, 99 mm. Injection at H.

The best fall was obtained with an old solid extract; then by the old acetic extract; then with the infusion and tincture of the old crop ergot; then with the infusion of the new crop; then with the old and new fluid extracts and the old wine.

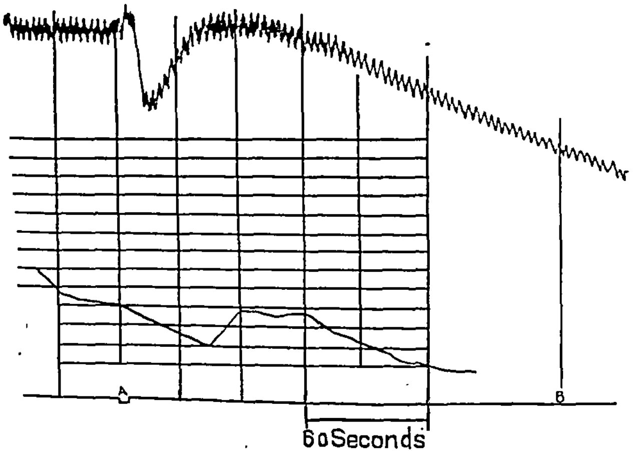

Fig. 6.—Simultaneous oncometer (lower) and blood-pressure tracings (upper). (Oncometer on intestine; curve plotted from readings.) The oncometer reaches its lowest level only after the blood pressure has recovered, indicating vasoconstriction. A, 11 c.c. ergot injected at 10 :22½ ; B, 10 :26.

The best rise was obtained with the new fluid extracts; then with the old fluid extract; then with the old and new infusion and tincture; the rise was deficient in the acetic extract, and especially in the old solid extract.

Figures 2 and 3 may serve to illustrate these statements. In this connection, it should be remarked that successive injections of the same preparation in the same animal, under identical conditions, give identical results in almost all the experiments. Differences were very rare.

INDIVIDUAL DIFFERENCES IN THE EFFECT ON ANIMALS.

Our experiments show that different individuals react unequally to ergot. Many of these differences may be referred to the blood pressure, to states of shock, etc. Others, however, must be referred to unexplained idiosyncrasy. For instance, Dogs 7, 12, 15, 28, 32, 34 reacted well; Dogs 20 and 29, poorly.

Other causes of variability will be discussed later, as they have some bearing on the explanation of the ergot effects.

INVESTIGATION OF THE MECHANISM OF THE ACTIONS OF ERGOT.

The blood-pressure phenomena could be either cardiac or vascular; they could originate in the central nervous system or peripherally; they might be direct or reflex effects. The fall and rise of blood pressure might be due to successive actions on the same or on different mechanisms. Several of these possible actions might be exerted at the same time.

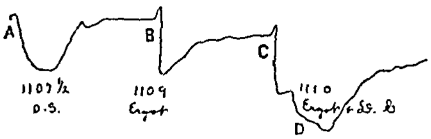

Fig. 7.—Depressor stimulation (D. S.) and ergot (rabbit). At A, D. S. time, 11:07½; at B, 11:09, ergot was injected. At C, ergot was injected, with D. S. at D.

Destruction of the spinal cord is an efficient method of ascertaining whether or not direct or reflex actions on the vasomotor center are the essential cause of the phenomena.

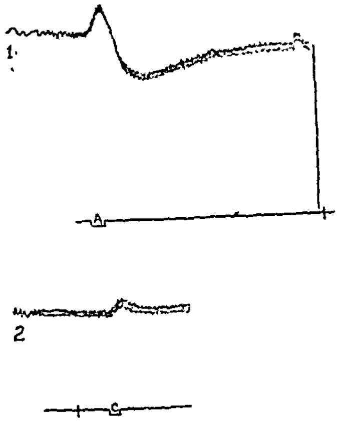

Fig. 8.—Ergot injection before (lower) and after (upper tracing) ligating the thoracic aorta: This shows the usual typical ergot phenomena, rather better after the aorta is tied. 1. Aorta clamped; A, time 11:39¼, 20 c.c. of ergot were injected (Squibb's and old infusion). 2. Before clamping aorta; C, 11:16½, 20 c.c. of ergot were injected.

OPERATION.. SECTION OF CORD.

Dog 10.—The cord was divided between the third and fourth cervical vertebræ. The division was almost, but not quite complete. Stimulation of sciatic nerve was ineffective. Pressure fell from 97 to 65, but later recovered to 88 mm.

Dog 11.—Cord crushed, but not completely divided between third and fourth cervical vertebræ. Sciatic stimulation ineffective. Pressure fell to 48 mm.

SECTION OF CORD FOLLOWED BY DESTRUCTION.

(A brass rod was passed down the spinal canal.)

Dog 21.—The cord was completely divided between atlas and axis; sciatic stimulation was ineffective. Pressure fell to 110. Cord destroyed to tenth dorsal vertebra.

Dog 22.—The cord was divided between atlas and axis; evidently above vasomotor center, for pressure remained at 170 and sciatic stimulation was effective. Cord was destroyed, dog died.

DESTRUCTION OF THE CORD.

Dog 13.—The cord was completely severed between third and fourth cervical vertebræ and destroyed to eleventh dorsal. Sciatic stimulation was ineffective. Pressure fell to 56 mm.

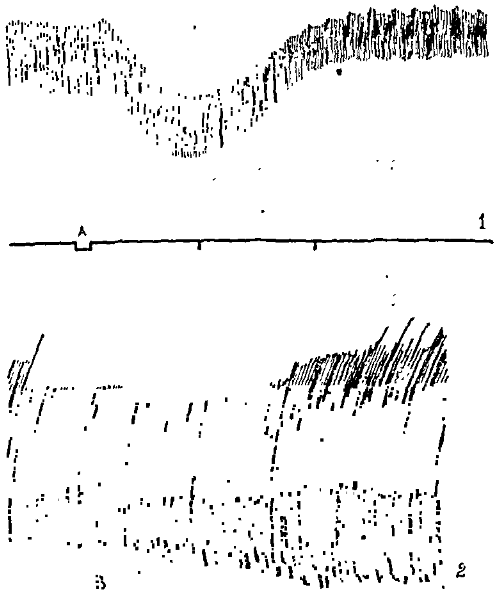

Fig. 9.—Simultaneous blood-pressure tracing and myocardiogram (needle in heart). 1. Blood pressure; A, 10:15, 6 c.c. of ergot were injected. 2. Myocardiogram, chest closed. The heart is weakened during the fall and greatly strengthened during the rise of pressure; B, ergot.

Dog 14.—The cord was completely severed between third and fourth cervical vertebræ and destroyed to first dorsal, where the wire left the spine and pierced the lung (with very little hemorrhage). Pressure fell to 64.

COCAINIZATION OF MEDULLA.

A pledget of cotton, saturated with cocain solution, was applied to the exposed medulla.

Dog 12.—Sciatic stimulation became ineffective and pressure fell to 33 mm., recovered to 62 mm. After forty-four minutes the cocain was washed off. The sciatic stimulation became effective again, but the pressure remained low.

It will be seen that the vasomotor center was effectively excluded in six of these experiments (for sciatic stimulation proved ineffective). All the animals were kept alive by artificial respiration and the ergot effect was compared before and at various times after the section or destruction of the cord.

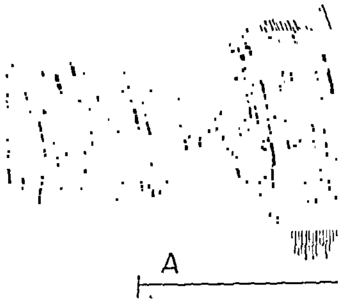

Fig. 10.—Cardiac tracings from excised Langendorff heart. Very typical ergot effect. A, ergot.

In all these experiments, the ergot fall was diminished, or even abolished, immediately after the destruction of the cord; while the rise was rather more powerful and more prolonged, but more gradual. These modifications are seen most typically shortly after the destruction of the cord. After a time, both the fall and rise approximate more closely to the effects before the cord was destroyed; but the efficiency of the ergot grows less and less until it finally disappears.

The very unusual high rise noticed shortly after destruction of the cord in some of the experiments may be attributed to recovery from shock; but this explanation can not apply to most of the observations (Fig. 4). Consequently there can be no doubt that both the fall and the rise of pressure may occur after destruction of the spinal cord; and that these phenomena, therefore, are essentially independent of the vasomotor center and of vasomotor reflexes.

RESULTS OF OTHER INVESTIGATORS.

Hemmeter and Wood also noticed the fall of pressure after destruction of the cord, so that there is no disagreement about this phenomenon. It is quite otherwise with the rise of pressure. Our results confirm those of Jacobj[8] (who also found the primary fall diminished), but are opposed by those of Wood,[3] Kobert[9] and Hemmeter,[14] who find that the rise does not occur after destruction of the cord. We can see two explanations for these results: One, that these authors allowed considerable time to elapse after destroying the cord, before they injected the ergot. This was the case with Wood. Now we have repeatedly found that the pressor response was absent at this time, while it was marked soon after the operation. A second possibility is that the preparations used by these authors really had an action on the vasomotor center, which was lacking or very inconspicuous in our samples. The preparations of Wood[1] and Kobert,[9] it may be remembered, produced an unusually high rise in normal animals, and Hemmeter[11] and Wernick[16] observed an actual constriction in their animals, which is practically lacking in ours, as we shall show later. It is conceivable that their samples were unusually rich in cornutin, which stimulates the vasomotor center. At all events, we are prepared to affirm that all the preparations examined by us produced at least as effective a rise soon after destruction of the cord as before, in twenty-one injections, in all the animals.

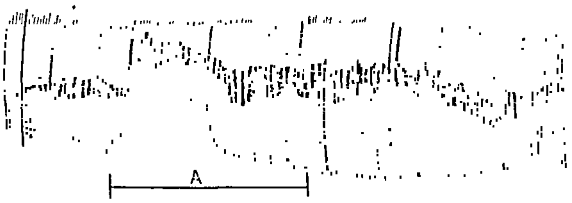

Fig. 11.—Cardiac tracing from the same excised Langendorff heart, as in Fig. 10, showing the typical primary diminution and secondary increase of force. A, ergot. A different preparation of ergot was used in this experiment.

Cause of the Modification of the Ergot Effects by Section or Destruction of the Cord.—The quantitative differences in the ergot effects before and after the operation may be referred in part to the fall of blood pressure, which always diminishes the ergot actions, and especially the fall, as we shall show later. There is, however, some other factor, probably "shock," for in Dog 13, the fall was abolished when the pressure was raised to 140 mm. In Dog 23, when the pressure was at 65 mm., ergot produced no fall, but a rise of 40 mm.; when the pressure rose to 115 mm., ergot did produce a fair fall, 20 mm., and a secondary rise of 18 mm.; when the pressure had again dropped to 60 mm., the ergot produced a fall of 8, and a rise of 6 mm. The relatively high rise of pressure, with a low initial blood pressure, was only observed after destruction of the cord, and not when the pressure had been lowered by any other means.

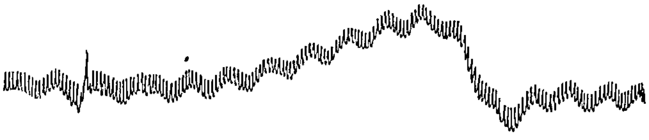

Fig. 12.—Fast tracing, vagi intact. Note the slight quickening of the heart during the fall and recovery.

Injection into the Cerebral End of the Carotid Artery.—Wood sought to decide between a central and peripheral origin of the phenomena by injecting the ergot into the cerebral end of the carotid artery, causing it to go to the brain before it reached the heart or peripheral vessels. The attempt was not very successful, as he obtained very variable results. We performed these injections on several dogs, and found that the results did not differ essentially from those of injections into the femoral vein. This does not justify any conclusions in either sense.

When the injections were made very slowly, into the distal end of the femoral artery, the effects were correspondingly delayed, and more prolonged. Otherwise, they were quite typical in Dog 4, in six injections. Dog 5 was in shock, and showed only a slight effect, but of the same type; while Dog 6, in which the injections were made especially slowly, showed a quite considerable rise, with scarcely noticeable fall, in each of three injections.

These results prove only that the ergot effects are not reflexes originating in the vessels.

ONCOMETER OBSERVATIONS.

The measurements of the volume of an organ is a conclusive and convenient method of deciding whether an observed change of blood pressure is of vascular or cardiac origin: If it be vascular, the oncometer and the blood pressure vary in an opposite direction; if it be cardiac, they change in the same direction. We made some thirty-five comparative observations of this kind, applying the oncometer to the kidney, spleen or intestine. In some of our experiments, the oncometer was read and the readings plotted on the blood-pressure curve; in others, the oncometer excursions were registered directly on the tracing by a Brodie bellows. In twenty-four of the injections, the oncometer followed the blood pressure in every phase (Fig. 5); so that all the ergot phenomena must be essentially of cardiac origin. In the remaining eleven injections, it departed only in one phase, i. e., during the recovery of the blood pressure from the fall; in these the oncometer began to rise only some time after the blood pressure, so that there must have been some vasoconstriction (Fig. 6). Even in these cases, however, the oncometer rose before the blood pressure exceeded the normal, and it continued to rise with the rise of the blood pressure above normal. In almost a third of the cases, therefore, ergot produced some vasoconstriction; but this is evidently of less significance than the cardiac changes. It is worth observing that this phenomenon was never seen with the extracts which had a poor pressor effect. The same phenomenon—fall of oncometer with fall of pressure, but delayed recovery—can be seen in all the oncometer tracings of Wertheimer and Magnin[11] taken from the

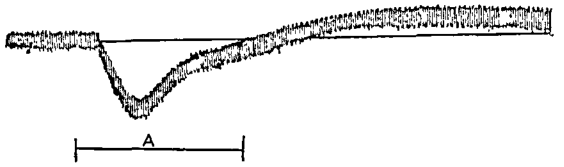

Fig. 13.—A prolonged injection of large dose of ergot (0.35 gm. per kilo). The phenomena are the same as with small, short injections; the pressure recovers during the injection. The space marked A indicates the duration of the injection.

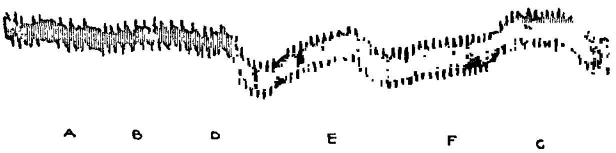

Fig. 14.—Prolonged injection, rate quickened at D and E. The pressure falls and recovers each time. At A the time was 11:37; started injection of 95 c.c. of infusion of ergot of new crop, the rate was quickened at D and E. At F, 11:42, the injection was stopped, and at G, 11:42½, 18 c.c. were injected.

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[16] Wernick: Virchow's Arch., 1872, vol. lvi, p. 505.

kidney. Bradford and Dean[13] also state that the plethysmograph indicates a constriction during the ergot rise.

EVIDENCE FROM INSPECTION OF ORGANS.

Holmes[6] (in most cases), Eberty,[17] Hemmeter,[14] Huizinga and others have observed a constriction of the vessels in the frog's tongue or in the web of the foot, as the result of the injection of ergot. Hermanides,[15] however, throws some doubt on the value of these statements; he also described this effect in his first paper, but in a second paper he rejects it altogether, as being due to inflammatory changes and not to ergot.

In mammals, Schueller described constriction of the vessels in the pia; Hemmeter[14] in the ear and omentum of rabbits, and Wernick[16] especially in the skin, muscles, intestine, bladder and in the pia of the cerebrum and cord. Hemmeter and Wernick both state that this constrictor reaction fails when the cord has been destroyed, and, therefore, attribute it to stimulation of the vasomotor center. We *looked for* evidences of constriction of the mesenteric vessels in several of our experiments, but were unable to confirm it. (The effects on the comb of the rooster and the gangrene action of the ergot have no bearing whatever on the present question. They are only produced slowly, are very persistent, and are apparently lost when the drug is aged.)

OUTFLOW FROM VEINS.

Pick[2] observed this carefully in a number of his experiments, in different areas, by a very excellent method, and failed to find any material change. This speaks against a pronounced and lasting vasoconstriction.

EFFECT OF DEPRESSOR STIMULATION.

If the effects of ergot were due to an action on the vasomotor center, they would probably be modified by stimulation of the depressor nerve. This would apply especially to the ergot fall. We found that this is not the case: The ergot and depressor fall are additive, indicating that they are the product of different mechanisms.

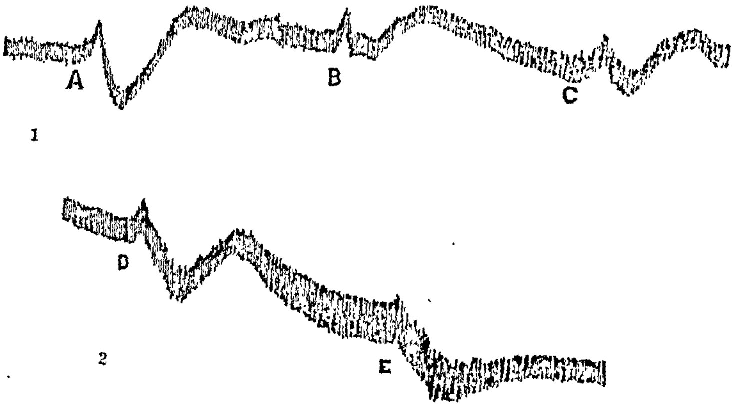

Fig. 15.—Rapidly repeated injections the mean pressure rises at first 1, and then falls progressively, 2. At A, 11:01 in 1, 8 c.c. of ergot (Wyeth) were injected, at B, 11:04, the injection of the same preparation was repeated, and at C, 11:07, 8 c.c. of Parke, Davis & Co.'s ergot were injected. In 2, at D, 11:09, 8 c.c. of Squibb's ergot were injected, and at E, 11:11½ the injection was repeated. Base lines omitted.

These experiments were made on a rabbit: the results were quite uniform. Stimulation of the depressor at the base of the ergot fall gives a marked further fall, and prevents the recovery of the pressure; stimulation during the ergot recovery again causes a fall (Fig. 7); injection of ergot during the depressor stimulation causes a marked further fall, and delayed recovery.

Ergot and depressor stimulation do, however, interfere with each other to a slight degree: The fall, when both are used together, is not quite equal to the sum of the falls which they cause separately (Fig. 7). It would seem, also, that the ergot interferes more with the effect of the depressor, than vice versa; for the drop is rather less when the ergot is given before the depressor is stimulated, than vice versa. The difference is not sufficient to be decisive. It is quite probable that the slight interference of the ergot and depressor stimulation may be referred to the change in the blood pressure.

Effects of Amyl Nitrite.—If the blood pressure is lowered by the inhalation of amyl nitrite, ergot is rendered less effective, but it still produces some effect. This indicates that it does not act on the vasomotor system centrally to the structures which are paralyzed by the nitrite.

Effect of Suprarenal Alkaloid.—This should also interfere with the effects of ergot, if these were due to vasomotor actions. They were found to be practically the same (We shall give the details later). This, therefore, is a further proof that the actions of ergot are not essentially vascular.

ACTION OF ERGOT ON THE CIRCULATION THROUGH EXCISED ORGANS.

The peripheral vasomotor action of drugs may be studied by adding them to fluid perfused under constant pressure through the vessels of excised organs, and noting their effect on the outflow from the vein, or on the oncometer; a diminution of the "veinflow" shows constriction, and vice versa. We made sixteen experiments of this kind, using the kidney, leg, spleen and intestine at room temperature and at body temperature, adding from 0.03 to 2 per cent. of ergot to 1 per cent. salt solution and to defibrinated blood, diluted with Locke's fluid. None of these showed any marked effect; the changes which we obtained were so small and variable that we must consider them accidental.

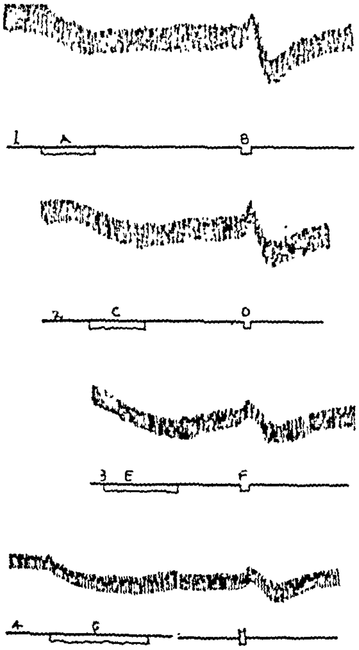

Fig. 16.—Influence of hemorrhage. The ergot effect diminishes as the pressure falls. In 1, at A, 11:25, 40 c.c. of blood were drawn off; at B, 11:27, 12 c.c. of ergot were injected. In 2, at C, 11:28, 40 c.c. of blood were drawn off; at D, 11:29½, 12 c.c. of ergot were injected. In 3, at E, 11:30½, 80 c.c. of blood were drawn off, and at F, 11:32, 14 c.c. of ergot were injected. In 4, at G, 11:33, 80 c.c. of blood were drawn off, and at H, 11:35½, 12 c.c. of ergot were injected.

We must conclude that ergot does not stimulate the vasomotor endings and that it has *no direct action* on the arterial muscle. Whatever vasoconstrictor action it possesses, therefore, must be central.

Jacobj[8] also tried the effect of the isolated ergot principle (chrysotoxin, secalintoxin and sphacelotoxin) in artificial perfusion. He claims that they slow the circulation, but his results scarcely suffice to prove this point.

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[17] Eberty: Inaugural Dissertation, Halle, 1873 (not consulted in the original).

A final proof of the insignificance of the vascular change is furnished by the fact that the same phenomena are produced when the vessels are practically excluded by clamping the thoracic aorta (Fig. 8).

SUMMARY AS TO VASOMOTOR EFFECTS.

It will be seen that all our experimental evidence agrees in excluding vasomotor effects as the essential cause of the ergot phenomena. They play no part whatever in the fall of pressure. A vasoconstriction of central origin, varying in extent with different preparations and with different conditions, co-operates in the rise of blood pressure, but is not its essential cause. The ergot phenomena, therefore, must be due mainly to cardiac changes. This view is supported by the strongest direct experimental evidence.

EFFECT OF ERGOT ON THE HEART—INTACT ANIMALS.

In a number of our experiments, we took simultaneous tracings from the carotid artery and from the cardiac muscle. In two dogs (27 and 28), the chest and pericardium were opened; a pin was hooked in the apex of the left ventricle and connected with a recording lever. The operation always caused considerable shock and thereby interfered with the result. The movement of the lungs also renders the tracing somewhat irregular. In Dogs 32 and 34, a long needle was thrust into the heart through the intact thorax and connected with the lever. About thirty-five injections were made. The results agree in all cases (Fig. 9). During the fall of pressure the excursions are greatly weakened; during the rise of pressure they are increased. The rate was not greatly altered, but in many experiments there was a tendency to slowing during the fall and to quickening during the rise. The changes in the carotid pressure and myocardium coincide in every detail, both as to kind and as to time. When the ergot did not alter the blood pressure, it also failed to affect the myocardium. These are precisely the results obtained by Wertheimer and Magnin,[11] who registered the intracardiac pressure from the right ventricle (see their tracing No. 4).

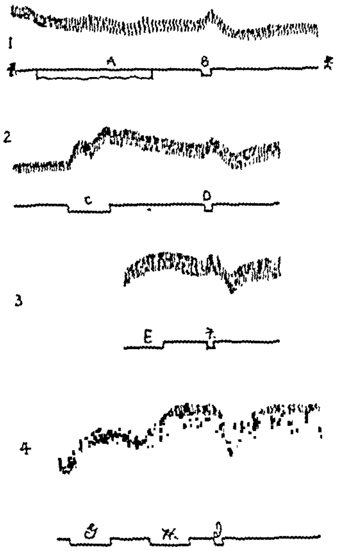

Fig. 17.—Influence of saline perfusion. (Continuation of Figure 16.) The ergot effect increases as the pressure rises. In 1, at A, 11:36½, 100 c.c. of Locke's solution were injected, at B, 11:38, 12 c.c. of ergot were injected. In 2, at C, 11:40, 100 c.c. of the solution were injected and at D, 11:41, 12 c.c. of ergot were injected In 3, at E, 11:41½, 100 c.c. of the solution were injected, and at F, 11:42½, 12 c.c. of ergot were injected. In 4, at G, 11:43, 100 c.c. of the solution were injected, at H, 11:44, the injection was repeated, and at I, 11:44½, 12 c.c. of ergot were injected.

EXPERIMENTS ON THE EXCISED HEARTS OF DOGS.

Precisely the same results were obtained by perfusing excised hearts, by Langendorff's method, with defibrinated blood, diluted with Locke's fluid, at 32 to 40° C. This was alternated with the same fluid, to which 0.04 per cent. of fluid extract of ergot was added. The tracings (Figs. 10 and 11) are scarcely to be distinguished from the myocardiograms taken from the intact animals; they even correspond closely in regard to time. Immediately on entering, the ergot greatly lessens the excursions; in 5 out of 7 experiments, the heart had a distinctly systolic tendency (Fig. 11); it was never diastolic. In a very short time, i. e., during the perfusion of the ergot, the contractions were strengthened, beyond the normal, often very considerably so. This persisted about as long as the ergot perfusion continued, returning to normal when the pure diluted blood was resumed (Fig. 11). During the lessened excursions, the rate was generally somewhat slowed, and during the greater excursions it was increased; but the changes in the rate were neither marked nor constant. As the contractions of the heart weakened from exposure the ergot became less effective, just as in "shock" in intact animals.

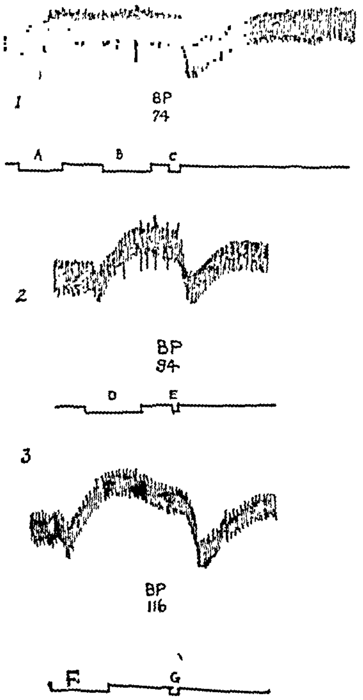

Fig. 18.—Influences of injection of blood. (Continuation of Figure 17.) The pressure and the ergot effect increase still more. In 1, at A, 11:45½, 100 c.c. of Locke's solution were injected, at B, 11.46½, the injection was repeated, and at C, 11:47, 12 c.c. of ergot were injected. In 2, at D, 11:49, 100 c.c. of blood were injected, and at E, 11:50, 12 c.c. of ergot. In 3, at F, 11:52, 100 c.c. of blood were injected, and at G, 11:53, 12 c.c. of ergot.

These results leave no doubt that the cardiac effects of ergot are peripheral.

STUDY OF THE CARDIAC CHANGES AS SHOWN ON THE CAROTID PRESSURE TRACINGS.

Some of our simultaneous carotid and myocardiac tracings demonstrate very strikingly that it is quite useless to try to judge the cardiac excursions by the excursions of the mercury manometer. The two are often precisely reversed, as in Figure 9.

EFFECT OF ERGOT ON THE RATE OF THE HEART.

In our experiments on animals, the effects on the rate of the heart were generally slight.

When the vagi had been divided (25 observations), the injections caused little if any change during the fall and recovery of the pressure; if the pressure rose above normal the rate was often somewhat quickened. In the excised heart, the rate was at first decreased, then slightly increased. These observations show that ergot does not stimulate the vagus endings, and that it does not act on the accelerators.

With the vagi intact (29 observations), the rate is increased somewhat while the pressure is low (Figure 12). This must be due to inhibition on the vagus center, and can probably be explained by the fall of blood pressure, rather than by any direct central action of ergot.

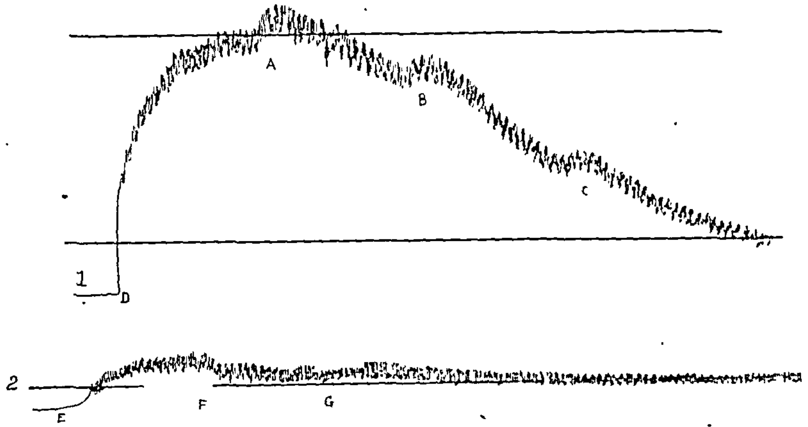

Fig. 19.—Influence of adrenalin. The upper tracing shows that raising the pressure by adrenalin does not improve the response to ergot. Paralysis of vasomotor endings by ergot: A comparison of the upper tracing (after 0.14 gm. of ergot per kilo) and the lower[2] (0.64 gm.) shows how the response to adrenalin has been decreased by the ergot. Sciatic stimulation has also become almost ineffective. In 1, at A, 11:30, B, 4:31, and C, 4:32, 25 c.c. of ergot were injected. At D, 11:27, adrenalin was administered. In 2, at E, 11:46, adrenalin was administered, at F, 11:46¼, sciatic stimulation, at G, 11:46½, 50 c.c. of ergot were injected. This is not the true base line.

STATEMENTS OF OTHER OBSERVERS.

Eberty[17] also found that ergot did not change the pulse-rate in atropinized mammals. With the vagi intact and active, Koehler and Eberty,[7] Wood,[3] and Bradford and Dean[13] found the heart considerably slowed during the rise of pressure. The slowing could easily be due to the latter. These experimenters were generally dealing with more marked pressor phenomena than occurred in our experiments. We observed a slowing in only one out of ten experiments in which the pressure rose above normal. In man, large doses of ergot are generally stated to slow the heart by from 10 to 25 beats a minute.

EXPERIMENTS ON FROG'S HEART.

We did not perform any of these, and mention them only for the sake of completeness. The heart appears to be slowed and weakened (Hemmeter[14]); and according to Koehler and Eberty,[7] this is due to stimulation of the vagus endings, proceeding to diastolic standstill. The action is, therefore, not the same as in mammals.

SECTION OF THE VAGI DOES NOT INTERFERE WITH THE TYPICAL ACTIONS OF ERGOT.

This conclusion is sufficiently confirmed by the experiments already cited. We have compared the effect of ergot before and after vagotomy in quite a number of our experiments. There was no material difference in the rise and fall, but only in the change of rate during the fall, which is probably an indirect effect, as we have just explained.[18]

This is also the conclusion of all the other investigators. Holmes has also shown that the results may occur when the depressor nerves are divided in rabbits.

HOLMES' THEORY OF THE CAUSE OF THE PRIMARY FALL IN THE SYSTEMIC PRESSURE.

Holmes,[6] who appears to be the discover of this effect of ergot, explained it by a powerful constriction of the pulmonary vessels, preventing the access of blood to the left heart, and hence to the general circulation. He advanced this theory on purely speculative grounds, without any experimental foundation. Later, Bradford and Dean[13] showed that this injection of ergot does indeed raise the blood pressure in the pulmonary artery, but not sufficiently to account for the fall in the systemic pressure. Mellin[10] obtained the same results, and finds further that the rise in the pulmonary, and the fall in the systemic pressure may occur independently, and have absolutely no relation to each other. It is to be remarked that the pulmonary pressure never shows a primary fall.

Ergot exhibits the phenomenon of (apparent) depression preceding stimulation. These successive effects have hitherto been explained by invoking two distant actions. According to the prevailing theory, the ergot, when injected intravenously, reaches the heart in concentrated form and depresses it. As the drug becomes diluted, this depression wears off and at the same time a vasoconstriction develops.

This simple explanation—that the passing of the depressant action is due to the dilution of the ergot—found support in the observation that ergot does not lower the pressure if it reaches the circulation slowly.[10] It is absolutely disproved, however, by our experiments on Langendorff hearts, in which the heart recovered and was even strengthened during the course of the injection.

PROLONGED INFUSION OF ERGOT.

Precisely the same result is obtained on intact animals. When large and long injections are made, the pressure falls, as usual, but immediately in every instance (7) recovers and rises even above normal (Fig. 13); but whenever the rate of injection is increased, the pressure again falls, and again recovers (Fig. 14).

These observations prove conclusively that the (apparent) depressant effects of the ergot pass off and are succeeded by stimulation, while the influence of the ergot is kept constant; and since these phenomena are seen also on the excised heart, in which scarcely anything but the muscle could be affected, it follows that the ergot first (apparently) depresses and then stimulates a single structure (i. e. the cardiac muscle).

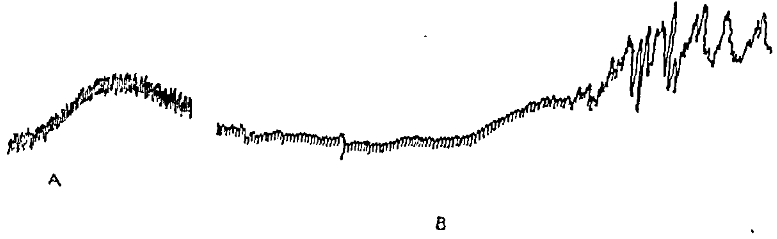

Fig. 20.—Paralysis of vasomotor endings after 0.75 gm. of ergot per kilo. The blood pressure reacts but weakly to adrenalin, strongly to barium. At A, 12:25¼, 1 c.c. of adrenalin was injected; at B, 12:29½. $BaCl_2$, 20 mg., per kilo. Base lines omitted.

DISCUSSION OF THIS PHENOMENON.

The succession of a depression by a stimulation of the same structure, under a constant dosage of the drug, would be an almost unique phenomenon in pharmacology. It is furthermore rendered unlikely by the recurrence of the fall when the rate of injection is hastened. One should look, therefore, for other explanations. The following occur to us:

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[18] After we had confirmed the absence of influence of vagotomy on the ergot phenomena, we performed this operation in most of the experiments, before injecting the ergot.

[19] See intramuscular injection.

It might be that the depressant and stimulant effects are due to two separate ingredients of ergot—the former acting quickly, the latter after a latent period, but more powerfully. This view has some support in the rather constant predominance of one action over the other, in some of the ergot preparations. It is contradicted, however, by the results of Jacobj,[8] who found that his isolated principles produced both actions.

The second explanation which we have to offer, is, that the lessened excursions of the heart are not produced by depression, but by a systolic stimulation of such strength as to prevent complete relaxation—a phenomenon noticed in certain stages of digitalis action. The secondary increase of excursions would be due to lesser degree of this action, from a kind of incipient fatigue. The rise of pressure without preliminary fall, after intramuscular injection would be due to the concentration of the ergot never reaching the degree where it would cause the hypersystolic condition. The support of this explanation lies in the observation that, in our Langendorff hearts, the lessened excursions were accompanied by a distinct systolic tendency in 5 out of 7 perfusions (Fig. 11). In the other two, the position of the heart was median —never diastolic. The theory is rendered insecure, however, by these exceptions; it also fails to account for the occasionally still greater increase of systole during the succeeding phase (Fig. 10).

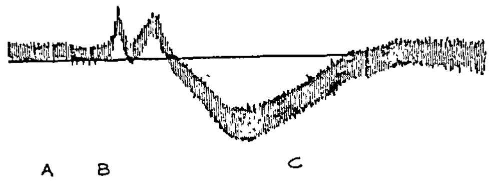

Fig. 21.—Anomalous ergot effect, of warm saline solution, 25 c.c. per kilo. A, 9:24; B. P. 143 at B, 9:24½, injection of solution started; at C, 9:26, the injection was stopped. Base line omitted.

A third explanation could be offered, namely, that the cardiac effects are merely indirect, the result of (hypothetical) changes in the coronary vessels. We did not investigate this, as it seemed to us unpromising, in view of the absence of peripheral vasomotor effects in other organs.

There are, therefore, objections to each of these suggested explanations; but we regret that we must leave the subject in this unsatisfactory manner.

SOME OTHER ACTIONS OF ERGOT.

Respiratory and Motor Stimulation.—Holmes noticed that his animals (which were not anesthetized) cried out and struggled during the fall of pressure; they quieted again before the pressure arose. Jacobj[8] and others have also observed this. Struggling occurred in several of our experiments, when the anesthesia was light. In a still larger number, the respiration was greatly increased during the fall. We are inclined to attribute these results to asphyxia, from the sudden anemia of the centers.

THE INFLUENCE OF CERTAIN CONDITIONS ON THE EFFECTS OF ERGOT.

The Influence of the Dose.—By comparing the effects of different doses on the same animals, it was found that the effect increased with the dose, to a certain point. Above this optimum dose—0.01 to 0.04, generally 0.02 gm. per kilo,—further increase of dose does not increase the effect. Even very large single doses—0.3 gm. per kg.—produce identical effects (Fig. 13). Very large doses, or frequently repeated injections, have certain additional effects, which will be discussed later.

Repetition of the Injections.—When several doses of ergot are injected with a few minutes interval, the effect is generally identical. If the injections succeed very closely, the effect is progressively lessened; the mean blood pressure rises at the same time—probably from the saline solutions which are introduced with the ergot (Fig. 15). When too many doses are given, the mean pressure falls and the ergot becomes less effective. The lessened effect is doubtless due usually to the lowered blood pressure and shock. In the Langendorff hearts, the reactions also became less and less pronounced as the ergot perfusions were repeated; but this might well be due to the gradual dying of the heart.

THE INFLUENCE OF BLOOD PRESSURE, SHOCK, ETC., ON THE ERGOT PHENOMENA.

We had frequent occasions to observe that the effects of ergot, particularly the fall, vary quantitatively with the condition of the animal, particularly with its blood pressure. In every case in which this was low, the ergot effect was also small, and in a general way, vice versa.

The Influence of Blood Pressure.—This may be presented in several ways:

Arranging the data of 61 experiments into three groups, according to the mean blood pressure just before the ergot was injected, we find:

Mean Blood Pressure, (mm. Hg.):	Above 125	75 to 125	25 to 75	
			Inclusive of Section of Cord.	Exclusive of Section of Cord.
Percentage of the experiments showing a primary fall of pressure.......	89	74	17	17
Mean fall in mm........	45	23	3½	3½
Percentage showing a rise of pressure	67	6.1	35	0
Mean rise in mm.	8.3	61	16.2	0
Number of experiments . .	18	31	23	12

It is seen that the frequency and the extent of the ergot phenomena—both fall and rise—vary in the same direction as the blood pressure. Changes of the pressure within each of these divisions does not influence the ergot effect materially. The difference between the first and second groups (between pressures above 125 mm. and between 125 and 75 mm.) is unmistakable but moderate. A very abrupt decrease of efficiency occurs with pressures below 75 mm., i. e., about the point where "shock" may be said to begin.

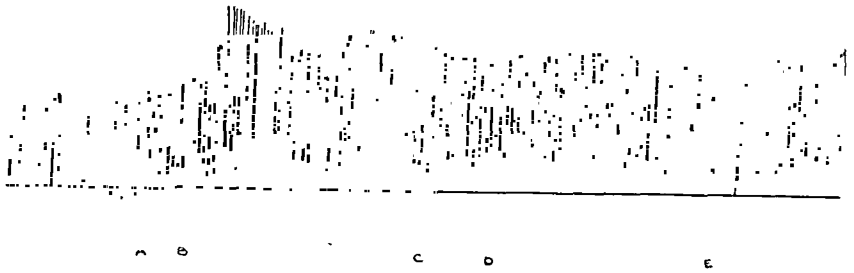

Fig. 22.—Effect of saline injection; prolonged rise and increased excursions; small dose before ergot. A, 10:39; B. P. 151; B, 10:40, 36 c.c. saline solution injected; C, 10:42; B. P. 174; D, 10:43, 18 c.c. saline solution injected; E, 10:44½, 25 c.c. ergot (P. D. & Co.) injected. Base line omitted.

The influences of blood pressure are equally obvious when the experiments are studied individually:

In a series of 24 experiments in which the mean blood pressure had risen, the ergot fall also increased in 17. In a series of 17 experiments the secondary rise was increased in 3.

In a series of 25 experiments[20] in which the mean pressure had fallen, the ergot fall was decreased in 24; in 14 experiments the ergot rise was also decreased.

Illustrations of these modifications will be given in the next section.

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[20] Experiments in which the ergot was ineffective at the higher pressures and in which the cord was destroyed are excluded.

INFLUENCES OF CHANGES OF BLOOD PRESSURE, ARRANGED ACCORDING TO THEIR CAUSES.

The Influence of Hemorrhage and Saline Infusions.—Severe hemorrhage lessened the response to ergot in every case. This is illustrated on Dog 16, and on Dog 30, Fig. 16. In the latter experiment the injection of warm Locke's fluid always increased the response, in strict proportion to the rise of mean blood pressure (Fig. 17). The injection of blood acted still more powerfully (Fig. 18). In Dog 16 the injection of saline solution and blood did not increase the efficiency of ergot; but neither did it raise the mean blood pressure materially. It may, therefore, be concluded that bleeding and the infusion of saline solutions modifies the action of ergot by changing the blood pressure.

The injection of saline solution in shock is much less effective, but still has the same kind of influence. This is shown by Dog 29. The animal was in shock from the start. In Dog 17 (shock from piercing the abdomen, pressure 47), the injection of 100 c.c. of salt solution did not increase the response to ergot, but neither did it raise the blood pressure.

The Influence of Operative Shock.—Opening the Thorax.—This invariably caused a great fall of blood pressure and a correspondingly lessened efficiency of the ergot fall and rise. It was observed in Dogs 27, 28 and 31.

Operations on Abdomen.—These did not usually cause a material fall of pressure, and consequently did not affect the ergot phenomena. In Dog 17, however, the pressure fell from 175 to 47, and the ergot fall and rise were correspondingly decreased. A (spontaneous) recovery of the mean pressure to 65 mm. did not improve the response to ergot.

Shock from Unknown Causes.—This had the same effect as operative shock. It was seen in Dogs 18, 19 and 29. Dog 19 is interesting, as it showed considerable spontaneous changes in the blood pressure.

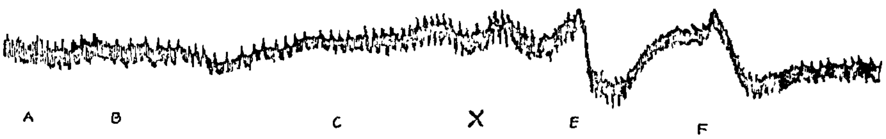

Fig. 23.—Anomalous effect of saline solution. A more typical ergot effect is obtained in this case with saline than with ergot. Sciatic stimulation is effective, after 0.36 gm. ergot, per kilo. Base line omitted. A, 11:25; B. P. 130; B, 11:26, started injection of ergot (18 c.c.); C, injection stopped, time 11:28. X, sciatic stimulation; E, 20 c.c. normal saline injected, time 11:31½; F, 20 c.c. normal saline injected.

Pressure.	S. K. F. Ergot.		Acetic Ergot.	
	Fall.	Rise.	Fall.	Rise.
80 mm.	0 mm.	20 mm.	60 mm.	10 mm.
108 mm.	40 mm.	10 mm.	..	..
134 mm.	0 mm.	10 mm.	..	..
42 mm.	..	..	0 mm.	0 mm.

Spontaneous Rise of Blood Pressure.—In Dog 26 the blood pressure rose, from unknown causes, from 164 to 188 mm.; the ergot fall increased from 40 to 50 mm., the secondary rise diminished from 20 to 10 mm.

Shock from Destruction of Spinal Cord.—It will be recalled that imediately after destruction, in the primary shock, the ergot fall is abolished and the ergot rise increased. After a time a recovery from this primary shock occurs, in which the ergot fall reappears (but remains much less than normal), and the abnormally high ergot rise is diminished. This is succeeded by a secondary shock in which the fall and rise are both greatly diminished or abolished.

Shock from Ergot Itself.—We have observed that the response to ergot is lessened after large doses of the drug have been given, the mean blood pressure being also lowered. This was seen in dogs 32 and 34, and in many others.

The Influence of Depressor Stimulation and of Amyl Nitrite.—This was also discussed previously. It supports the general relation of the ergot response to the blood pressure.

This is also true of variations of blood pressure produced by variation in the degree of anesthesia. In Dog 15 the ergot produced a fall of 50 mm. with a mean pressure of 140, 40 mm. with a mean pressure of 115, 50 mm. with a mean pressure of 140, the changes of blood pressure being due purely to the anesthetic.

Influence of Adrenalin on the Ergot Phenomenon.—Increasing the blood pressure by adrenalin furnishes most striking exceptions to the rule that the ergot response varies with the blood pressure. In five dogs in which the response to ergot had almost or quite disappeared on account of shock—the pressures being from 40 to 70 mm.—the raising of the pressure by adrenalin did not restore the ergot phenomena to their original degree, although it improved them slightly in most cases (Fig. 19).

The failure of the adrenalin rise to influence the ergot phenomena is not due to any interference of the two drugs; for if the adrenalin was given to animals which reacted typically to ergot, it did not diminish this reaction. It may be due to the relatively short duration of the blood-pressure rise.

It will be apparent, from the preceding, that the effects of ergot are modified quantitatively by the blood pressure of the animal, the response to ergot becoming insignificant with pressure below 75 mm.

THE EFFECTS OF VERY LARGE (TOXIC) DOSES OF ERGOT.

The immediate results of the intravenous injection of large doses of ergot differ in no essential from those of small doses. Figure 13, for instance, shows precisely the same phenomena from 0.3 gm. of ergot per kilo, as are ordinarily produced by a tenth of this dose. The secondary rise is generally higher, sometimes considerably so, as in Dog 17 (0.43 gm. of ergot per kilo); but this may be largely referred to the saline solution which was injected with the ergot (in this case, 182 c.c.).

When a considerable number of doses are injected in close succession, as in Figure 15, the blood pressure at first rises, and then falls progressively. The latter phenomenon is to be explained by a gradual depression of the vasomotor endings, which occurs very slowly. Repeated large doses of ergot also depress the cardiac vagus center, the excitability of the cardiac vagus endings being preserved. Even very large doses (to 2.27 gm. per kilo) were not fatal in the period of observation.

FATALITIES IN THE COURSE OF THE ERGOT EXPERIMENTS.

In a series of thirty dogs injected with quantities of ergot exceeding 0.086 gm. per kilo, only eight died spontaneously. The death in these cases was due to shock, from assignable causes other than ergot. Of those which survived, and which were killed intentionally at the end of the observations, the following quantities of ergot had been injected intravenously:

In five dogs	0.6 to 1 gm. per kilo.
In three dogs	1.0 to 1.5 gm. per kilo.
In three dogs	1.5 to 1.8 gm. per kilo.
In one dog	2.27 gm. per kilo.

Effect of Division of the Vagi after Large Doses of Ergot.—In normal dogs, division of the vagi quickens the heart rate and diminishes the excursions of the manometer. In the four dogs in which we performed this operation after 0.12 to 0.78 gm. of ergot per kilo had been given, only one (with 0.2 gm. per kilo) showed any quickening, and this only from 120 to 141 beats per minute. The three others showed no effect whatsoever. In one of these, the loss of vagus tone could not be attributed to anemia or to shock of the vagus center. This indicates that large doses of ergot gradually depress the vagus tone.

Effect of Large Doses of Ergot on the Mean Rate of the Heart.—Comparing the tracings at the beginning and toward the end of the experiments, in which the vagi had not been divided, we found that the heart rate was materially increased and the excursion lessened in three dogs (0.1 to 0.9 gm. per kilo); not affected in three dogs (.04 to 0.6 gm. per kilo); rate increased in none.

There is consequently a distinct tendency to increase the heart rate. That this is due to a depression of the vagus center is shown by comparison with a series of six dogs in which the vagi were divided early in the experiment: In all of these, the heart rate remained unchanged throughout the injections (0.08 to 0.96 gm. of ergot per kilo).

Effect of Rise of Blood Pressure on the Heart Rate.—In normal animals, a rise of blood pressure (as by adrenalin) is generally accompanied by a slowing of the heart, from central vagus stimulation. This was very often absent after large doses of ergot.

The excitability of the vagus nerve and endings is not affected by ergot. In five dogs, electrical stimulation of the vagus was effective after doses of from 0.56 to 2.4 gm. per kilo.

The only statement bearing on this point, which we encountered in the literature, is by Boreischa (quoted from Wood[3]), that large doses of ergot quicken the heart, and paralyze the vagus nerve endings. The first statement agrees with our results, but the second does not.

Effect of Large Doses of Ergot on the Mean Blood Pressure.—This subject is somewhat difficult to investigate, as one can never be quite certain that other causes of shock are really excluded. Making this exclusion as fairly as possible, and comparing the blood pressure early and late in the experiments, it is found that in a series of 17 dogs:

	Dose of ergot given before the last observations (gm. per kilo).	
Mean blood pressure.	Extremes.	Mean dose.
Fell in 6 experiments..........	0.24 to 1.87	0.38
Rose in 5 experiments.	0.04 to 0.8	0.155
Unchanged in 6 experiments....	0.12 to 0.96	0.33

The average fall of mean blood pressure in the six experiments showing a fall, amounts to 47 mm.

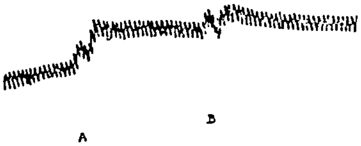

Fig. 24.—Common effect of saline solution. A, 10:47½, 20 c.c. of saline solution injected; B, 10:49, injection repeated. Base line omitted.

This indicates a distinct tendency to a considerable fall of the mean pressure, which is also illustrated in Figure 15.

Effects of Large Doses of Ergot on the Response to Adrenalin.—1 cc. of 1:1000 adrenalin, injected intravenously with 10 cc. of saline solution, produced but a small effect after large doses of ergot had been given, as shown by the following table:

Rise of blood pressure produced by adrenalin.	After dose of ergot (per kilo.)	Number of Experiments
0 to 35 mm.	0.64 to 2.4 gm.	5
45 to 60 mm.	0.1 to 1.18 gm.	6
70 to 120 mm.	0.14 to 0.24 gm.	3

This is also well illustrated on Dog 23:

Dose of ergot.	Adrenalin rise.
0.4	160
1.18	55
1.38	25

Figure 19 shows almost complete absence of reaction after 0.64 gm.

Effect on Response to Splanchnic Stimulation.—This was very much diminished, simultaneously with the response to adrenalin:

Dose of ergot per kilo.	Adrenalin rise.	Splanchnic rise.
.85 gm.	+60 mm.	+10 mm.
1.38 gm.	+25 mm.	+8 mm.
.78 gm.	+35 mm.	0 mm.

The Response to Sciatic Stimulation.—This was also lessened.

Dose of ergot per kilo.	Adrenalin rise.	Sciatic rise.
.36	..	30
.64	+25	8

Strychnin convulsions were also practically ineffective in raising the blood pressure.

Barium chlorid (20 mg. per kilo), on the other hand, was perfectly efficient. Figure 20.

It must be concluded that large doses of ergot produce a peripheral vasomotor paralysis. Since they prevent the action of adrenalin, but not that of barium, it must be concluded that they depress the endings.

EFFECT OF ERGOT ON THE VASOMOTOR REACTIONS IN EXCISED ORGANS.

Adrenalin caused no constriction, but a dilation of vessels, when it was injected into a spleen which had been perfused with ergot for 25 minutes. A kidney, after fifteen minutes perfusion with ergot, reacted but slightly to adrenalin. An intestine, after thirteen minutes of ergot, gave a food adrenalin reaction.

These results coincide with those obtained on living animals.

RESULTS OF OTHER INVESTIGATORS.

The fall of blood pressure after large doses of ergot has been observed by Haudelin, Boreischa, Brown-Sequard,[21] and others. Koehler and Eberty[7] claim that the vasomotor center responds to reflex stimulation even after the largest dose of ergot. Boreischa also noticed that this fall of pressure does not occur if the ergot is given after the spinal cord has been cut; this also agrees with our observation, and our interpretations.

THE RESULTS OF PLUMIER.[22]

After the completion of this paper, we became acquainted with the work of Plumier, published Jan. 15, 1905. This is especially interesting, as he obtained the same results on the excised heart. His principal observations, however, bear on the action of ergot on the pulmonary vessels. With the fluid extract of ergot (and in rather large doses) his results are as follows:

The effect on the general blood pressure consists in a considerable primary fall, followed by a small secondary rise. The pressure in the pulmonary artery rises without primary fall. The pressure in the left auricle does not generally change. The heart rate is quickened during the fall. The volume of the kidney diminishes during the fall, but does not recover during the rise. Langendorff hearts show a primary depression and secondary augmentation. Artificial perfusion of the leg shows a slowing. The blood flow through the lungs is slowed, even after section of the nerves and after death.

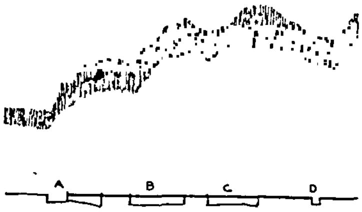

Fig. 25.—Saline injection; example of persistent rise in spontaneous shock. A, 10:37, 100 c.c. saline solution injected; B, 10:37¾, injection repeated; C, 10:38¼, injection repeated; D, 10:39, 16 c.c. ergot injected.

These results show the same effects on the heart as we have observed; they present, however, a more powerful vasoconstriction. Plumier, therefore, attributes the primary fall of pressure to the cardiac action; but the secondary rise is composed of two factors: cardiac augmentation and vasoconstriction. He does not express himself as to the relative importance of these two factors. Our results also indicate that this is variable. In the effect on the pulmonary circulation a peripheral vasoconstriction predominates.

Another ergot preparation gave much less cardiac depression. Tanret's ergotinin was devoid of cardiac action, but produced a strong vasoconstriction even in the systemic circulation. (Considering the variable response of different animals, it seems to us that the conclusions as to these different preparations would require a rather large amount of experimental material.)

CONCLUSIONS.

The typical effects of the intravenous injection of ergot consist in a large and abrupt fall of blood pressure, followed by a prompt recovery, and generally by a slight and short rise. The volume of the organs varies generally in the same direction as the blood pressure. The changes in the latter are mainly cardiac. This is confirmed by myocardiograms from the intact and excised heart. Ergot causes first a lessening and then an increase of the excursions; both phenomena may occur whilst the ergot is being injected. The rate of the heart is but little altered. The effect of ergot must be exerted directly on the cardiac muscle. There is some oncometric evidence that ergot has a slight vasoconstrictor action, but this is inconstant and inconsiderable. There was no evidence of strong constriction or of a high rise of blood pressure.

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[21] Brown-Séquard: Archives de Physiologie, 1870, vol. iii, p. 434.

[22] Plumier, L.: Journ. de Phys. et Path. gén., 1905, vol. vii, p. 13.

The preliminary fall of blood pressure is absent if the ergot is given by intramuscular injection.

The action of ergot is independent of the dose, within wide limits. The relative predominance of the fall and rise differ somewhat in different ergot preparations; age, however, does not impair the efficiency of their action on the mammalian circulation. The effects are greatly diminished by lowering the blood pressure, by any method. Shortly after the destruction of the spinal cord, however, ergot produces a relatively good rise of pressure.

Large doses of ergot depress the vagus center and the vasomotor endings. It is not acutely fatal, even in very large doses.

THERAPEUTIC BEARING OF THE RESULTS.

Our experimental material contains no item which would point to ergot as a useful drug for modifying the general circulation. The reputed rise of blood pressure is too small, and particularly too short, to have any significance. It fails most completely in conditions in which the blood pressure is low.

In making this statement, we would not be understood as denying the existence of those vascular actions which have been discovered by some clinicians, and denied by others. We would merely say that these clinical observations are not at present supported by experimental evidence. The peculiar effect of ergot on the combs of fowls indicates that certain animals, and special vascular areas, are more susceptible to the constrictor action of the drug. Man may belong to this class.. Frenkel[23], by the use of Basch's sphygmomanometer, claims to have demonstrated that the hypodermic injection gives a small rise, of from 20 to 30 mm., but lasting over an hour. So far as we know, her observations have not been repeated. Nicol and Mossop claim to have observed a constriction of retinal vessels. It is conceivable that ergot, acting in man unequally on different organs, might thus alter the distribution of blood so as to be of benefit in the obscure conditions in which it is recommended. In the face of the negative experimental evidence, however, clinical conclusions should be formulated with caution and conservatism.[24]

AN UNUSUAL EFFECT OF SALINE INJECTION.

In the course of the ergot experiments, we had occasion to observe several times a rather peculiar effect on injecting 0.9 per cent. sodium chlorid solution intravenously. This consisted in a considerable primary fall, followed by a slight secondary rise, resembling very closely the typical ergot phenomena. This occurred in three animals, only when the blood pressure was high. It could be repeated a number of times on each animal. It occurred better with relatively large doses (20 to 25 c.c. per kilo), Figure 21, but was also observed with small doses (2 to 4 c.c. per kilo). In at least one of the experiments, the saline solution was at body temperature when injected. The peculiar phenomenon was at its best when the ether had been removed for some time. It disappeared completely when the animals passed into shock.

Figure 23 shows a more typical "ergot" effect from saline solution than from ergot.

It is scarcely necessary to say that we always made control injections of saline solution, comparing them with equal quantities of our ergot solutions.

For comparison, we append tracings showing the ordinary effects of small doses of normal saline with good blood pressure (Fig. 24); and of large injections with low blood pressure (Fig. 25).

INGUINAL HERNIA OF THE BLADDER.

REPORT OF A CASE. REMARKS ON DIAGNOSIS.*

S. C. PLUMMER, M.D.
CHICAGO.

Patient.—H. E. R., aged 40, locomotive engineer, on Dec. 24, 1903, jumped from his engine, which was about to leave the track. He struck on his feet, which slid out from under him, allowing him to fall heavily on his buttocks.

Examination.—Dr. R. A. Kerr, of Peoria, who examined him the same day, reports "a very large left inguinal ring. No previous history of hernia. No protrusion of abdominal contents." About a month later I saw the patient and he plainly had, at that time, a left inguinal hernia. I arranged to operate on him at a later date to suit his convenience. On the right side, there was no sign of a testicle either in the scrotum or in the inguinal canal, and the patient said there never had been.

Operation.—June 16, 1904. After making the usual incision, a thick-walled sac, containing much fat, was separated, with some difficulty, from the surrounding tissues. The sac was the size of a large walnut, and had a neck as large as the greatest diameter of the sac, easily permitting the ends of three fingers to be passed through it. The opened sac was found to contain omentum and bowel. It was transfixed with a needle threaded with catgut, and, after being ligated off, first in halves, then by encircling the entire neck with a ligature, the redundant portion was cut away.

In an ordinary case, I should now have proceeded to sew up the inguinal canal, but in this case there was so much fat in the canal that I thought best to dissect away some of it. In doing this, I discovered another sac to the inner side of the first. This sac was about one and one-fourth inches long and one-half inch in diameter, with a neck slightly less in diameter. In structure it resembled the average hernial sac of peritoneum. On opening it, it had the appearance of peritoneum, and, on exploring with the finger, I found that the opening led down behind the pubic bone; no intestine or omentum could be felt. I was at a loss how to account for this second sac. In view of the absence of the testicle on the opposite side, the possibility that this had some connection with a misplaced funicular process occurred to me. I put a ligature around the neck and cut away the sac. Then I was struck with the thought that, perhaps, I had to do with the bladder. I removed the ligature, and, on holding apart the edges of the wound, I could see fluid. I passed a sound through the urethra, and, on pushing an artery forceps through the neck of the sac, the two came in contact. The fluid which I saw was, of course, urine.

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[23] 23. Frenkel, S.: Deutsches Archiv für klinische Medicin, 1890, vol. xlvi, p. 571.

[24] 24. Other references which may be consulted are Grünfeld, A.: Dorpat Arbeiten, 1890, vol. iv, p. 1; 1892, vol. viii, p. 108; 1895, vol. xii, p. 295. Houghton: Ther. Gaz., 1889, vol. xxii, p. 433; 1903, vol. xxvii, p. 450..

* Read by invitation at the meeting of the medical societies of the second congressional district of Iowa, and of the Iowa and Illinois Central District Medical Society, Davenport, Iowa, 1905.

Being now sure that I had a wound of the bladder, I proceeded to repair it, using two layers of continuous catgut suture, the first passing through the cut edges, but not coming out on the mucous surface of the bladder wall, the second being inserted in a manner similar to a Lembert suture. The wound was not more than an inch long and was in the extraperitoneal portion of the bladder.

The inguinal canal was now closed by Ferguson's method with the exception of about one inch at the lower inner end, where a gauze drain was inserted down to the bladder. A catheter was passed into the bladder through the urethra and allowed to remain there.

After-Treatment.—The patient made an uneventful recovery. The highest temperature was 100.5 F. on the evening of the day following the operation. On the second day the dressing was changed. There was no leakage from the bladder wound. The gauze packing was removed and a smaller piece of gauze inserted into the wound, but not down to the bladder. At the end of three days, I removed the catheter, and during the next two days the patient was instructed to urinate every two hours voluntarily. On the fifth day, I removed all drainage and inserted two catgut sutures through the aponeurosis of the external oblique and conjoined tendon above and Poupart's ligament below, also two silkworm-gut sutures through the skin, under nitrous oxid gas anesthesia.

Result.—Primary union. The patient was kept in bed till July 3, and left the hospital July 13. Shortly afterward he returned to work. On Feb. 4, 1905, I examined him and found no recurrence of the hernia, although he reports that, about Jan. 1, 1905, he slipped from the running board of his engine and fell to the ground, a distance of about six feet, alighting on his feet.

Since the radical operation for the cure of hernia has become so common it has been learned that hernia of the bladder occurs more frequently than was formerly supposed. As a rule, the diagnosis can not be made clinically, but comes as a surprise during the operation. In some of the reported cases the operator has recognized the bladder before wounding it, but in the majority it has been recognized only after being wounded, and in some not even then.

Why is it that the various operators who have reported cases have almost invariably been puzzled as to the identity of the structure with which they had to deal when meeting with a hernia of the bladder for the first time?

I think it is because we have been taught to regard this condition as a curiosity, and so have failed to be on the lookout for it. In my own case, although I had never before seen an inguinal hernia of the bladder, I feel that I should have recognized it sooner, for, in assisting the late Dr. Christian Fenger in hernia operations, I was taught to look for this condition, and an urethral sound was always ready during each hernia operation. One condition which should have been suggestive to me was the presence of an abundance of fat in the inguinal canal, which is mentioned by all authors as usually accompanying bladder hernia. Again, the position of the second sac, to the median side of the true hernial sac, was characteristic. The feature which deceived me was the appearance and structure of the sac itself. It did not at all resemble the normal bladder wall, and probably was devoid of muscular tissue, as the herniated portion of the bladder frequently has been found to be. Its thickness was about that of blotting paper. The absence of the testicle on the opposite side added to the confusion by suggesting some anomalous arrangement.

Inguinal hernia of the bladder is almost always accompanied by intestinal or omental hernia. According to the portion of the bladder involved, we speak of extraperitoneal, intraperitoneal and paraperitoneal, the latter involving that portion of the bladder which is partly intraperitoneal and partly extraperitoneal, and this is by far the most frequent form. My case, however, was of the extraperitoneal variety.

Clinical symptoms suggestive of the presence of the bladder in an inguinal hernia are difficulties in passing urine, the enlargement of the hernia when the bladder is full and the fluctuation in the tumor. Hernia of the bladder generally occurs in adults. Sometimes the patient can empty the bladder only with his body in a certain position or when he makes pressure with his hand over the hernia. Sometimes the urine escapes drop by drop, and again it may be voided in two acts, the first emptying the bladder proper, the second the herniated portion. Sometimes pressure on the hernia causes a desire to urinate.

Distention of the bladder for diagnostic purposes may be brought about by having the patient retain his urine for a long time, or by injecting the bladder with air or water. Occasionally it has been found possible to pass a catheter into the herniated portion.

Pressure may reduce the size of the fluctuating swelling, the accompanying intestinal or omental hernia may be reduced, but almost invariably there remains behind what B. Farquhar Curtis[1] describes as "a small, flat, doughy tumor, feeling like a thickened sac or like a flattened piece of adherent omentum."

Conditions which lead to the suspicion of the presence of the bladder during operation are the presence of an unusual amount of fat in the inguinal canal, the location of the tumor, the difficulty of separating it from the true hernial sac, the recognition of its musculature when present, the possibility of passing an urethral catheter or sound into the hernia, in addition to which Shepherd[2] mentions the large size of the inguinal opening, out of proportion to the size of the protruding intestines, the likelihood that the hernia will be direct (two out of four cases in his personal experience), and the difficulty of finding a neck to the true hernial sac. The latter difficulty was present in my case. The fat which is present in the inguinal canal in these cases may be found as a diffuse layer or as a lipoma.

The herniated portion of the bladder is always found to the inner side of the true hernial sac. Sonnenberg, writing in "von Bergmann's Surgery," says that it is always to the inner side and behind the hernial sac. As a rule it lies to the inner side of the spermatic cord instead of in front of it, as the ordinary inguinal hernial sac does; it is not intimately connected with the cord. The pedicle of the herniated portion of the bladder leads down behind the pubic bone into the true pelvis.

In the most frequent form of bladder hernia, the paraperitoneal, that portion of the bladder which has a peritoneal covering, is continuous with the posterior and inner portion of the true hernial sac; in some cases, indeed, it actually forms this portion of the true hernial sac, and consequently is very easily injured in cleaning off or in ligating the neck of the sac. This intimate connection between the true hernial sac and the bladder makes it very difficult to separate the one from the other without injury to the bladder.

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1. Annals of Surgery, vol. xxi, 1895.
2. Annals of Surgery, vol. xl, 1904.

If the portion of the bladder which is in the hernia is normal, the bladder wall can be identified by its thickness, but frequently there is little or nothing of the muscular coat present in the hernia, which, consequently, has more the appearance of an ordinary hernial sac.

If the tip of an urethral sound can be made to pass from the bladder into the hernial sac, it is proof positive that there is a hernia of the bladder, but it is not, as a rule, possible to do this.

If the bladder has been wounded it may be identified by the presence of urine and by the possibility of passing a metal instrument through the wound and bringing it in contact with a sound passed into the bladder through the urethra.

The bladder has been mistaken for the true hernial sac, for a lipoma, for properitoneal fat, for omentum, for a cyst, for a thickened patch in the sac wall, for a hydrocele of the cord, for a sacculation of the colon, and finally, as in my case, for a second hernial sac.

In the radical operation for the cure of inguinal hernia as done to-day, the neck of the sac is drawn down as far as possible in order to ligate off the sac as high as possible. In doing this the neighboring parietal peritoneum is also drawn on, and through it traction may be made on the bladder. In case of a recurrence of the hernia after operation, it can readily be seen that the bladder would be quite likely to be present in the hernia. In operations for recurrent hernia, therefore, we should be particularly on our guard against wounding the bladder.

FETAL DEATH FROM LOOPING OF CORD.

HERBERT C. JONES, M.D.,
DECATUR, ILL.

When we consider the conditions present in the uterus during pregnancy, it should not be a matter of surprise that complications arise, in the relation of the movable contents, but rather that such complications are not more frequent.

There is a developing fetus with more or less freedom of movement floating in an ovoid sac of fluid, and attached at its center by a long loose cord to the uterine wall. Let it not be forgotten that the permeability of this rope of blood vessels is at all times essential to fetal existence, and if the evidence of the prospective mother is to be accepted, this selfsame fetus is seldom still, day or night, during the latter half of intrauterine life.

I agree with the statement of obstetric writers that once in every five or six labors this cord is found looped about some portion of the newborn infant, usually the neck, from one to six or eight times, and I think that most experienced obstetricians will agree that this occurs more frequently than stated. In my own experience, covering over fourteen hundred cases, I should think the condition had been present in greater or less degree in nearly half my cases, though I have no record to verify the statement. These cases embraced from one to four loops about the neck, arm, body, or leg, or a combination of two or more of these loopings.

It has been suggested that this looping may in some cases be a conservative accident, saving an unusually long cord from the danger of prolapsing. Be that as it may, while it has sometimes been annoying and doubtless offered some hindrance to delivery, as well as requiring hurried attention after the delivery of the head, I have seldom seen any serious results follow this very common accident.

In one case, occurring in early practice, an otherwise physically perfect infant was still-born, though at the beginning of the second stage of labor it was alive, as shown by audible fetal heart sounds and perceptible movement. Postnatal examination showed that the cord which was around the neck and across the face had been compressed between the arm and the cheek or brow during a tedious delivery. It is possible that a hasty application of the forceps might have saved this child, though doubtless at the expense of the integrity of the maternal parts.

The following case, however, is one which it seems to me possesses enough unusual features to warrant me in reporting it:

History.—Mrs. L. W., aged 36, was pregnant for the fourth time. She was short and stout of physique, and had a history of comparatively easy labors. The last menstruation occurred during the first week in March, 1904. There was nothing abnormal about the course of the pregnancy, except complaint of more than usually active movements, until about October 9, when, after a period of very active movement, all perceptible motion ceased. This was reported to me next day and for several succeeding days. I suggested the probability of fetal death and predicted a still-birth in about two weeks.

Nothing occurred, however, for two months, or until December 12, though it was thought no further enlargement took place after the cessation of movement. Owing to her corpulency and to the absence of any measurements this is only stated as her impression.

Pains were felt in the forenoon of December 12, and I was called at 2 p. m. On examination I found full dilatation had taken place with the os retracted above a bulging amniotic sac.

Believing the fetus dead, I endeavored to preserve the membranes unbroken as long as possible, and within an hour had the satisfaction of seeing the unbroken sac protruding through the vulvar opening, and with one strong expulsive effort the entire contents of the uterus was expelled in one mass—the sac unbroken and the placenta closely adherent, through the membranes, to the buttocks of a female child, of about five pounds weight. The uterine surface of the placenta was smooth and complete, and no hemorrhage or other untoward event disturbed the normal puerperium. The unbroken amniotic sac was taken to my office and shown to several physicians, after which it was opened and the accidental cause of fetal death shown to be strangulation of the cord, which was looped around both legs—four times around the left, with an overlap, and once around the right, with the last loop only a few inches from the placenta. The loops were so tightly drawn that grooves reduced the size of the legs at that point to the size of the bones and the skin covering them.

The features of this case which seemed to me extraordinary, and unlike anything in my past experience, or of which I had seen a report, were the fact that the dead fetus should be carried two months before expulsion, and that delivery should occur at so late a period as the end of the seventh month without rupture of the membranes, and more especially after carrying its contents to the full term of pregnancy. The descent of the child and the separation of the placenta must have been coincident, and yet uterine contraction followed so closely as to prevent any postpartum hemorrhage. There was no possibility of delivery occurring without the placenta being included except by rupture of the umbilical cord.

It is, of course, conceivable that the death of the fetus did not take place at the time of cessation of perceptible motion, and this opinion is supported by the fact that maceration apparently was not greater than is seen after two or three weeks. If so, a low degree of vitality may have been maintained for a part of the period between that time and final delivery, but not sufficient to produce any appreciable growth or development.

Complete intrauterine amputations have been reported, but they are generally attributed to amniotic bands rather than to looping of the cord, and it is doubtful whether a sufficient compression could have been made by these loops completely to amputate without first cutting off the circulation and stopping growth. This, doubtless, is the logic of the argument in favor of amniotic bands as the cause of these amputations.

It must be apparent that so complicated a looping about the extremities as shown in this case could only have been brought about by instinctive efforts to disentangle them. Nature, it would thus seem, implants even in the unborn creature the impulse to struggle to maintain its existence, and although in this case the efforts resulted disastrously, it is quite conceivable that they might have resulted differently, and freed the legs from their entanglement. At any rate the effort put forth was not much less intelligent and well-directed than the similar efforts put forth in the struggles of full grown domestic animals to free themselves from the coils of a tethering rope.

CHRONIC ACETANILID POISONING.

REPORT OF TWO ADDITIONAL CASES.*

ALFRED STENGEL, M.D.
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PHILADELPHIA.

Chronic acetanilid poisoning is probably very much more frequent than the medical profession appreciates, for the reason that the symptoms may be comparatively inconspicuous. The drug in its pure form or in various proprietary combinations is so easily obtained that its indiscriminate use has naturally resulted. A very striking case came under my observation three years ago and was reported by myself and Dr. C. Y. White; since that time two additional cases have been under my care: one, a private patient, was sent to me by a medical friend on account of obscure symptoms, which proved to be the result of chronic acetanilid poisoning; the other, a hospital patient with rather more marked symptoms, was referred to me on account of other conditions.

Case 1.—Mr. W. C. H., aged 38, a merchant, consulted me in July, 1902, on account of increasing weakness, nervousness and slight shortness of breath. There were occasional palpitations of the heart and frequently a sense of throbbing in the neck. He had noticed a blue color of the lips and finger nails. For several years he had suffered from facial neuralgia and later from severe headaches. With these exceptions he had always been in good health.

Examination.—The patient is a strongly built, well-nourished man. The face, lips and finger nails were deeply cyanosed, but the surface was not specially cold. There was marked pulsation of the vessels of the neck; pulse rate 85, and on slight exertion reached 105 or 110.

Physical examination: The heart was found to be enlarged to the left and to the right, the left border extending beyond the midclavicular line and the right border a little beyond the right edge of the sternum. The heart action was irregular and the apex impulse rather diffuse. On auscultation the sounds were found to be somewhat indistinct and vibrating in quality, but there was no murmur. Lungs were negative. Abdominal organs were apparently normal. The spleen was not palpable.

The station was good, the knee jerks and other reflexes normal. The eyes were a little prominent, but otherwise normal. There was a slight tremor of the hands. No enlargement of the thyroid gland.

Urine: The urine on the patient's first visit was found very dark and showed a considerable amount of indican, but was otherwise negative. Subsequently repeated examinations showed no abnormalities in color or in other appearances.

Blood: Repeated examinations of the blood were made, but unfortunately the records have been mislaid. A constant result of these examinations was the discovery of marked polycythemia, the number of red corpuscles being 6,000,000 or greater. There was no excess of leucocytes. Histologic examinations showed no abnormalities in the erythrocytes except an apparent enlargement. Nucleated red cells were never found, and basic granulations and polychromatophilia were absent.

History.—Later I obtained the information that the patient had for some time taken a proprietary remedy known as cephalgin on account of his facial neuralgia and headaches. The amount could not be determined, as he carried it about and took doses at irregular intervals and without any care to avoid excess. I learned that the blueness of the skin was of about a year's duration, which agreed quite accurately with the time during which he had been taking the remedy mentioned. It was difficult to obtain an accurate history from the patient, as he either could not recall the taking of the drug, or wished to conceal the fact from me. From his wife, however, I learned that he had taken a great deal of the preparation, that he had grown steadily more nervous and irritable, that he slept almost constantly from the time of his return from business to the next morning, and that he was quite altered in his general character and disposition.

Treatment.—The patient returned at intervals from July, 1902, until January, 1903. At first we had reason to believe that he continued to take some of the antineuralgic remedy, though he denied it to us. Subsequently, under tonic treatment, together with the administration of iron, arsenic and cardiac stimulants, his condition improved and by the end of 1902 he was practically well, and has so remained up to the present time.

Remarks.—Recently I saw him on the occasion of the illness of another member of his family, and he told me that he thought he had taken much more of the cephalgin than he had told me in the beginning, and expressed himself as quite certain that his condition was directly and entirely due to the drug taken.

Case 2.—Miss M. E., aged 27, was admitted to the University Hospital, June 30, 1903, with the following history:

History.—The patient had had the usual diseases of childhood, but subsequently was in excellent health until eight or nine years ago, when she began to suffer from sick headaches. The attacks grew more and more frequent up to four or five years ago, when she began to use "tablets" to relieve the pain, and continued them steadily up to March, 1903, when she discontinued their use. Her stomach had become increasingly irritable, and about nine months ago she noted a change in the color of her skin. At first this was of a grayish or light purplish hue. Later it became a deeper blue. During five or six weeks before admission she had also suffered from dyspnea and palpitation of the heart. This discoloration of the skin improved somewhat after discontinuance of the tablets.

Examination.—Temperature normal; pulse and respiration a little rapid. The patient complained of disturbance of the stomach and of some headache. The skin of the face was of a light steel blue color; at times it had a dusky hue; at other times a clear blue. The finger nails and lips were more deeply cyanosed. The surface temperature felt normal.

Physical Examination: There was found slight enlargement of the heart, mainly to the left. The first sound at the apex was distinctly murmurish; the second pulmonic sound was slightly exaggerated. The lungs, abdominal organs and nervous system were practically normal.

Blood: R.B.C., 3,460,000; W.B.C., 6,960; hemoglobin, 72 per cent. (Accurate determination of the hemoglobin was almost impossible on account of the peculiar dark discoloration of the blood.) Histologic examination showed no abnormalities in the character of the blood corpuscles.

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* From the William Pepper Laboratory of Clinical Medicine; Phoebe A. Hearst Foundation.

Urine: Color dark brown, distinctly smoky, reaction acid, specific gravity, 1038; no albumin, no sugar, no bile. Microscopic examination showed some leucocytes and a few red blood corpuscles with calcium oxalate crystals and scattered epithelial cells.

The patient improved gradually, and was discharged from the hospital on August 7, 1903.

Subsequent History.—April 19, 1904: The patient was re-admitted, giving the following history:

For three months after her discharge she was in excellent health, but about Dec. 1, 1903, the headaches recurred and soon became severe. She now presents a peculiar pallor of the skin, together with some cyanosis. There is extreme prostration of strength.

Physical Examination.—The area of cardiac dullness is increased decidedly on both sides, and on auscultation a well-marked systolic murmur is audible at the apex, practically replacing the first sound. The second pulmonic sound is accentuated. The spleen is much enlarged, being easily palpated two inches below the costal margin. The liver also extends below the edge of the ribs. Lungs, negative.

Blood:[1] R.B.C., 3,170,000; W.B.C., 9,680; hemoglobin, 64 per cent. Histologic examination shows moderate anisocytosis and poikilocytosis. No nuclear red cells.

Urine: Mahogany brown in color, alkaline, sp. gr. 1024; no albumin, no sugar. There was a whitish sediment. Microscopically, triple phosphate crystals with epithelial cells and leucocytes were discovered. Uro-erythrin was present in moderate amount; indican was present in excessive quantity. No reaction with Rosenbach's test. No hematin, hemoglobin, methemoglobin, hematoporphyrin, bile pigment, pathologic urobilin, nor melanin could be found. No phenol nor acetone. No color reaction with iron chlorid. The high color was probably due to purin substances derived from indican.

April 25, 1904: The patient complained of pains in the region of the heart, as well as continued facial, frontal and orbital pain. The color of the skin improved progressively from the day of her admission to the hospital.

Blood: R.B.C., 3,680,000; W.B.C., 9,200; hemoglobin, 68 per cent. Microscopic examination showed a few nucleated red cells, poikilocytosis, and variability in the staining affinity of the erythrocytes.

April 28, 1904: The patient has continued to improve. Dr. Fife reports the following results of the examination of the urine:

Amount (total for twenty-four hours), 680 c.c.; sp. gr., 1022; acid, volatile fatty acids equal 51.6 c.c. of 0.1 normal acid solution. No acetone, no phenol. Tests for blood and bile pigments negative. Heller's test for urophein positive; Harley's test for urohematin negative. No urobilin. Indican excessive in amount. Both the indoxyl sulphates and indoxyl glycuronate present to Strauss' test.

May 6, 1904: At this time, some doubt having been cast on our conclusion that acetanilid had alone caused the symptoms, and the patient having denied the taking of any acetanilid between her first and second visit to the hospital, we administered the drug in doses increasing from 20 to 45 grains daily, with the result that there was a progressive increase in cyanosis and a return of the dark color of the urine. The chemical examination, however, again showed the absence of blood pigments. The following examination was reported by Dr. Fife, May 16: Amount of urine 600 c.c. dark reddish brown color, acid reaction, color becoming brown wine-red on addition of an alkali. This had been noted at previous examinations, but was not recorded in the reports, probably due to paramidophenol, a derivative of acetanilid. Excessive amount of both indoxyl sulphate and glycuronate (Strauss). Total sulphates, 1.4212 H_2SO_4, ethereal sulphates, .3769 H_2SO_4; preformed sulphates, 1.044 H_2SO_4; total nitrogen, 9.4 grms. The indophenol reaction of paramidophenol present in ethereal extract (Jaffé method). Oxycarbamid not demonstrated. No blood pigments present. The high color is probably due to paramidophenol and possibly in part to substances derived from the indican.

Blood: Blood serum obtained by puncture of a vein with a hollow needle was distinctly colored, but on spectroscopic examination showed only the absorption bands of oxyhemoglobin. When treated with ammonium sulphid and with Stokes ferrous tartrate solution, it exhibited the band of reduced hemoglobin. Examination of the blood showed some nucleated red corpuscles, poikilocytes and irregularity in the affinity for stains.

June 10, 1903: Acetanilid was discontinued on May 24. After this time the patient steadily improved. On June 5 the following notes were recorded: The patient's condition is much improved. There is now only a dull feeling in the head and slight pains in the extremities. The dusky or ashy color of the skin has practically cleared up.

Remarks.—In attempting to determine the quantity of acetanilid which the patient had taken before her admission to the hospital, I found it difficult to reach a reliable conclusion. Her physician wrote that she had first consulted him on account of severe headaches, and that after various attempts at relief had failed, and even morphia hypodermically was unsuccessful, he gave her some three-grain tablets of acetanilid, instructing her to use them with care. As there were two physicians in the same office, she obtained the tablets from one or the other of them, so that neither knew the amount which she was receiving.

"For a period of one year she used these tablets, sometimes as many as six in one day and at times two or three days in succession; then there would be a period during which she would not use them. The taking of this drug in the dose mentioned was so irregular that it is impossible to determine the exact amount. She denied having gotten any at any drug store. During the past eight months, since her return from the hospital, she has had none of the drug nor any coal-tar product. In summing it up I should say that Miss E. took the drug for a period of two years, that she never took more than 20 grains in any one day, and there were whole weeks in which she did not take any of it. I am inclined to think that there were times when she took as high as 20 grains every day for a week."

This letter was written shortly after her second admission to the hospital, when we thought that she must have taken acetanilid in the interval between her previous discharge from the hospital and her re-admission on account of the return of cyanosis. She, however, denied this, and, as the letter indicates, her physician believes she took none. The prompt return of the cyanosis, however, when acetanilid was administered, assured me that our suspicions were correct and that she had in the interval obtained the drug elsewhere than from her physician.

These cases were of special interest from the point of view of diagnosis. The first had been regarded as an obscure vascular disorder, and even after the true cause was suspected offered some difficulties on account of the lack of morphologic changes in the blood. In some experimental work now under way, Dr. C. Y. White has found that morphologic changes are not readily producible. The blood of dogs may be rendered thick and chocolate colored without presenting any evidence of alterations in the character of the red corpuscles.

Another matter of interest in these cases was the denial by the patients of the use of the drug. In this respect they agreed entirely with the case previously under my observation. I felt convinced that the deception by the patient was not merely the result of a fear that we would discontinue the drug, but was somehow the consequence of a moral disturbance. In the first case here reported the patient afterward spoke quite frankly of his use of the drug, though at the time of the active symptoms he could not be induced to confess that he was taking it, even when it was certain that he was doing so.

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[1] Dr. C. A. Fife made the various chemical examinations of the blood and urine.

The polycythemia in the first case was of interest to me and was the occasion of the comment which I made in discussing Osler's paper on "Chronic Polycythemia, with Cyanosis, and Enlargement of the Spleen"; that some of the cases reported as instances of this unusual condition might be cases of acetanilid poisoning. In the case of the patient referred to there was polycythemia and cyanosis but no splenic enlargement. The last, however, is a frequent symptom of chronic acetanilid poisoning, and the whole picture might, therefore, be readily that of chronic polycythemia. It was not supposed by me that all cases of this condition could be so explained, and at the present writing a very pronounced case with 9,000,000 red corpuscles per c.mm., extreme cyanosis, and considerable splenic enlargement is under my care, in whom no suspicion of acetanilid poisoning can be entertained, nor is any other hemolytic agent of external origin operative in this case.

Finally, a point of interest in these cases, as well as in the previous case reported by me, was the readiness with which neuralgic symptoms were controlled after the acetanilid was withdrawn. It would seem that the continued use of the drug so lowers the patient's resistance that instead of having a normal controlling effect on the neuralgic manifestations it acts as a general depressant and that the neuralgic symptoms occur with even more frequency while it is being used than would otherwise be the case. Discontinuance of the drug and the adoption of general tonic treatment soon proved successful in the two cases here recorded.

Clinical Report.

A CASE OF POTASSIUM CHLORATE POISONING.

LESTER W. DAY, M.D.

MINNEAPOLIS.

Patient.—Mr. H. W., aged 30, suffering with a slight sore throat, and not wishing to consult a physician, went to a drug store and asked the boy at the soda fountain to prescribe for him. The boy handed him a bottle containing fifty 5 grain tablets of potassium chlorate. The directions printed on the bottle were to dissolve one tablet every hour or so in the mouth until relieved. Between March 19 and April 1, the entire bottle was consumed, the last tablet being taken the afternoon of April 1. During the night of April 2, the patient began to itch and thought that the pet dog had infected him with fleas.

Examination.—I was called the afternoon of April 6, and found the following condition, and in addition a temperature of 101 F.: Over his thighs, legs, ankles, trunk, forearms and wrists there appeared slightly raised reddish macules, also innumerable petechiæ. These rapidly coalesced, the color became more brilliant and it was evident that it was due to hemorrhage. With this there was no nausea, diarrhea or headache.

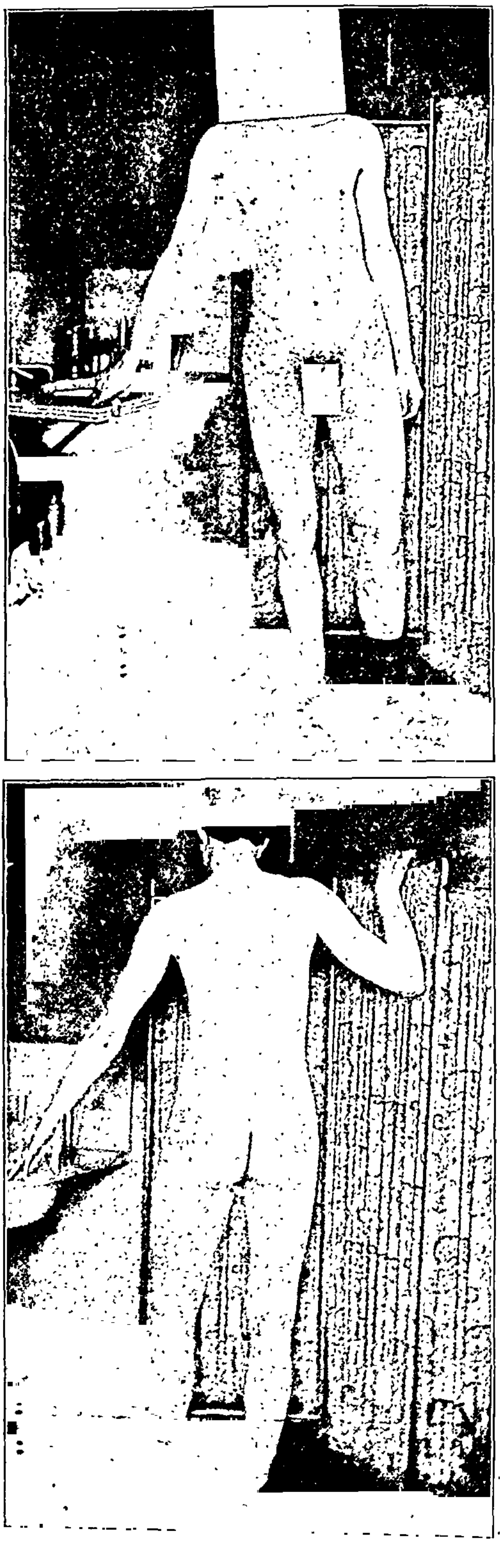
On the following day he was photographed by Dr. A. T. Mann and was seen by a number of the physicians of Minneapolis. Examination of his blood showed red cells 5,016,000. Hemoglobin could not be determined because blood was of a brighter red than any test glass (Reichert).

Urine: The specific gravity was 1,040; the urine was scanty, rather high colored, and showed a bare trace of albumin and a few hyalin and granular casts. No blood cells were found.

The patient made a slow but uneventful recovery.

In an article in Sajous' "Cyclopedia of Practical Medicine,"[1] it is stated: "Death occurs in potassium chlorate poisoning from the depression of the vital powers, due to its destructive action on the blood and the congestive obstruction of the kidneys.

"In addition to the above symptoms, the appearance of small, punctiform, hemorrhagic spots on the legs and extending to the trunk and upper extremities has been observed as late as the sixteenth day."



Distribution of potassium chlorate eruption.

I trust that the report of this case may illustrate forcibly the danger of the use of potassium chlorate.

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[1] Vol. v, page 336.

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Note.—To admit the full proceedings of the House of Delegates, other departments are curtailed or omitted.

THE PORTLAND SESSION.

It was with a good deal of misgiving that many physicians went to Portland to attend the recent session of the American Medical Association. The fact that the meetings were to be held at a point so far from the center of population of the country, the size of the town, and the fact that the Lewis and Clark Exposition was being held, thus overcrowding the city, were sufficient to cause anxiety as to the outcome. The session, however, can be put down as being the most successful, considering all things, ever held by the Association. Seventeen hundred and fourteen registered, a number which has been exceeded only a few times at sessions held near the centers of membership.

The scientific work in nearly all the sections was excellent. It was remarked by many that the fact that fewer papers than usual were read in the larger sections made these meetings more satisfactory, for the reason that there was more time for discussions, and these, too, were of a high character. There were only two drawbacks to making the session satisfactory in every respect, namely, the transportation facilities of the railroads were taxed to their utmost, and the hotel accommodations were not sufficiently ample for such an immense gathering. Even the hotel arrangements, however, were more satisfactory than the majority expected them to be, so that there was little dissatisfaction expressed either as to accommodations or their cost.

The local profession entertained most royally; in fact, the criticism was that the entertainments were too lavish, and consequently must have been a severe tax on the Portland physicians and on those who co-operated with them.

The House of Delegates transacted more important business than has ever been transacted at any previous session of the Association, and the business was despatched much more smoothly, and with greater expedition than formerly. As time goes on, a notable improvement in the conduct of business is apparent.

This session will be looked back to as being the starting point of, or at least as emphasizing, three great movements: (1) The authorization of the publication of a medical directory by the profession itself. (2) The emphatic endorsement of a movement inaugurated to suppress the nostrum evil. (3) The completion of the machinery for systematically developing a higher standard of medical education through the appointment of a salaried secretary for the Council on Medical Education, who will devote his time to the work outlined by the council a year ago.

The unanimous selection of Boston as the next place of session means that the Association is to go to the other side of the country, from the newest of the West to the oldest of the East. The last time the Association met in Boston was in 1865, forty years ago. As we believe that the profession of Boston and of Massachusetts will make every effort to have the session in that city a grand success, we may look forward with pleasurable anticipation to its being a notable one.

PRESIDENT ROOSEVELT ON THE REWARDS OF SCHOLARSHIP.

Within the last two weeks President Roosevelt has touched on subjects of direct interest to physicians in two different addresses. In his address to the Long Island physicians he emphasized the difficulties in the way of the construction of the Panama canal and the essential part that preventive medicine must play and is playing in this undertaking. His appreciative remarks of the sanitary work of General (Dr.) Leonard Wood in Cuba and the stress laid on the comparatively speaking inadequate rewards for services of such great benefit to a people make pleasant reading for medical men. President Roosevelt has a firm grasp of the rôle of medicine in the progress of civilization and he clearly recognizes the value of expert knowledge in sanitary work, a point on which many public non-medical officials of great power often appear lamentably weak and unsound.

But it was to the President's address to the alumni of Harvard University on the rewards of scholarship in general in this country that we wished to direct the attention of our readers more particularly. Here he points out with admirable clearness that if the career of the scholar remains an insignificant one in the public mind, then such a career will not be attractive to the most vigorous and gifted of our young men. He shows that there is a lack in this country of opportunities for great scholars to win great prizes such as await preeminent ability in business and in law. This, he says, should not be so, because "the average of all of us is raised by the work of the great masters;" at the same time he qualifies himself by saying that much of the work that is best for the nation as a whole must ever be, relatively, inadequately remunerated, albeit to be able to do such work is in itself the amplest reward. The slight monetary reward, however, for scholarly achievement can not but have a repellent effect on the ambitious youth who is casting about for a career. "The American scientist, the American scholar should have the chance, at least, of winning such prizes as are open to his successful brother in Germany, England or France, where the rewards paid for first-class scholarly achievements are as much above those paid in this country as our rewards for first-class achievements in industry and law are above those paid abroad."

Applying the President's remarks to the conditions presented by medicine in this country, we see at once that the awards in store for the teacher and investigator, particularly in the purely scientific branches—anatomy, physiology, pathology, bacteriology, pharmacology—are not such as to appear attractive to the young man of parts. Only few institutions are capable of giving the same salaries to the occupants of positions in these branches that are paid to men of corresponding rank in our first-class universities, and those salaries we know are far from being so large as to be regarded as "prizes." In 90 per cent. of our medical colleges the salaries offered are mere pittances, the equipment, time, and opportunity for good work minimal, and the positions in question are utilized largely as stepping stones to reach clinical chairs which bring more or less return from outside sources. So long as this continues to be the case the teaching and investigation in medicine in this country will suffer great harm. So long as this continues only comparatively few of our well-trained graduates will fit themselves for careers in medical teaching and medical research. Now the responsibility for this depressing state of affairs, to a large extent, rests with the medical profession itself, because it permits the establishment and continuance of so many medical schools that have no other reason for their existence than the purely selfish ambitions of small groups of men. By its neglect to attempt to provide generously for those occupied with the teaching and study of the fundamental branches and with medical work of a public nature, the medical profession in the United States has shown that so far it has not recognized properly the value of scholarship to American medical progress and to its own public standing. The remedy? Make the careers in the fundamental medical branches and in public medical positions attractive to "strong and virile youths"; secure adequate salaries and permanent tenure of office for occupants of municipal and other public positions. In no case, so far as we know, does any permanent so-called first-class position now offer a salary at all commensurate with the presumptive earning capacity of a fitting occupant as a private practitioner. Many medical schools would render the most valuable service of which they are capable by dutifully closing their doors forever. In some cases consolidation might produce institutions of considerable strength. In their relations to medical schools and institutions in general, medical men should take to heart the President's words when he well says: "No first-class science, no first-class literature or art, can ever be built up with second-class men."

THE PRESIDENT-ELECT.

Dr. William J. Mayo, Rochester, Minnesota, whose picture is here presented, was, at the recent Portland session, elected President of the American Medical Association. Dr. Mayo was born in Minnesota in 1861, and received the degrees of A.M. and M.D. from the University of Michigan. Unlike the majority of noted surgeons, whose fame has been achieved in large cities, Dr. Mayo's name is connected with a small city of 8,000 inhabitants, Rochester, Minn. Here he has built up his great reputation, refusing to accept flattering offers in larger cities and from prominent institutions. He is surgeon of the St. Mary's Hospital, which is now a well-known surgical institution, and which was originally built for his father, Dr. W. W. Mayo, by the Franciscan Sisters. As Dr. Mayo's practice grew, he associated other physicians with him to the present number of sixteen, and from time to time additions have been made to the hospital. Built on thorough study, painstaking technic and accurate anatomic knowledge, Dr. Mayo's fame has become international. A hard worker, he has mastered details so as to command the respectful attention of the foremost surgeons here and abroad until he has been recognized as one of America's greatest surgeons. The contributions to medical literature of Dr. William J. Mayo and his brother, Charles H. Mayo, who is closely associated with him, have been frequent and varied. Particular attention has been paid in their writings and public addresses to the surgery of the stomach and to the surgery of the biliary apparatus. As Dr. Rodman said in nominating Dr. Mayo (page 281), this is a deserved tribute to an able, worthy and honorable son of the West.

PRESIDENT-ELECT WILLIAM J. MAYO.

NEW STATE MEDICAL JOURNALS.

The initial issues, in July, of two new state medical journals—the *Ohio State Medical Journal* and the *Texas State Journal of Medicine*—are creditable to the medical profession in their respective states, and tributes to the labors of the publication committees. Dr. Frank Winders, chairman of the publication committee of the Ohio journal, is secretary of the Ohio State Medical Association and has been made managing editor of the Ohio journal. In size this journal is convenient and its makeup is quiet, though attractive. It is a welcome and dignified addition to the ranks of medical journalism. Announcement is made that the Ohio State Association has 3,340 members, and that only ethical advertisements will be received. This first issue presents some excellent editorials, though it is chiefly devoted to the proceedings of the late meeting of the State Association. Dr. Ira Carleton Chase is editor-in-chief of the Texas journal and he has a large and efficient staff of associate editors. The first editorial is an announcement, by the board of trustees, of the aim and scope of the publication. They state among other things that the advertising pages of the journal will be filled with only helpful and ethical advertising and that all remedial agents advertised must conform to the *Principles of Ethics* of the American Medical Association. The reading matter is valuable, well arranged and well printed. These two journals give promise of being valuable additions to medical literature.

IMPRISONMENT AT HARD LABOR AND TYPHOID FEVER.

It is certainly not in accord with the present humane methods which we use toward prisoners to place them in an environment which entails danger of disease. Assuredly, the people of the State of Michigan never intended to impose a sentence of imprisonment at hard labor and typhoid fever, yet this is exactly what was done when prisoners were sent to the penitentiary at Jackson; the insanitary conditions were such as to cause a continuous series of typhoid fever cases among the prisoners. This has now been entirely remedied. With the removal of a faulty sewer and the destruction of an insanitary wing, typhoid fever has been wholly eliminated. There has not been a case for months. The present management is certainly to be congratulated on its work in eliminating from the punishment meted out to prisoners the danger of typhoid fever, which was not imposed by the court.

THE PROFESSION OF GETTING HURT.

Pearson's for July presents the second article by Theodore Waters on "The Profession of Getting Hurt." Chiefly, this paper recounts the famous malingering cases of Jennie Freeman in 1894 and of Inga Hanson in 1904. Both were, in the main, Chicago cases, thus indicating (with the personal damage suits against the city detailed in June) the somewhat "bad eminence" achieved by Chicago in its attraction for the professional malingerers. The cases make interesting and enlightening reading, and it is an excellent thing to have such facts convincingly presented to lay readers. It is an important part of the welcome education of the public in matters medical and semi-medical that is now in progress. One or two points made by Waters are notable. "Paralysis as a fine art" has greatly developed in a decade and "prices have gone up. No self-respecting paralysis operative would now think of asking less than *a small fortune for a séance.*" This species of grafter is costly to the community. Even when damages are not secured the cost of defense is burdensome. In the case of municipalities, taxes are thus kept unnecessarily high or needed public works are injuriously delayed. In the case of railroads and public-service corporations, this grafting contributes directly to keeping up rates and to hindering improvements in public accommodations. Widespread publicity of the methods of the malingerers will do much toward restricting their operations. The help to be given by the medical profession is clear. The renegade physician who aids the malingerer must be so ostracised and disqualified that none will dare share in these crimes. The lawyers' responsibility and task are greater, for all these cases are instigated, promoted, and fostered by "shyster" attorneys. At present the legal profession seems sadly to lack *esprit du corps;* and, so far as observation goes, appears to be doing nothing toward the long-postponed housecleaning. In this connection, *Pearson's* editorially announces that it will continue its series of articles, with the intention of making it unpleasant for "the shyster lawyer who makes his money by creating litigation." The announced program promises some valuable revelations. It is very interesting to learn that already the magazine is receiving anonymous abusive letters, evidently from those who live by blackmail and who fear publicity even as the "burned child dreads fire." May more publications join this promising crusade!

Medical News

ILLINOIS.

Infant Feeding.—The edition of the circular on infant feeding, published by the State Board of Health a month ago, is entirely exhausted. A new edition now in press will be issued about July 25. It was supposed that the first edition would be sufficient for the summer, but the great demand made by the physicians of the state speedily exhausted it. Requests for this circular have been received from every state in the union. The Health Department of Indianapolis has requested the privilege of purchasing several thousand copies for distribution in that city.

Red Cross Society Formed.—An Illinois branch of the American Red Cross Society was organized July 12 with the following officers: President, Governor Deneen; vice-presidents, Archbishop Quigley, Lambert Tree, Rev. F. W. Gunsaulus and Rabbi Hirsch, all of Chicago, J. O. Humphrey, Springfield; President E. J. James of the University of Illinois; treasurer, Orson Smith, Chicago; secretary, Honore Palmer, Chicago; executive committee, Dr. Frank Billings, chairman; Gen. Lloyd Wheaton, U. S. A.; Dr. S. S. McArthur, J. A. Spoor, Frank Hamlin, Gen. Martin B. Hardin, Robert A. Ross, Walter C. Newberry, Mrs. Bryan Lathrop, Mrs. Medill McCormick, Mrs. Henry Davis, Jr., of Springfield.

Chicago.

Personal.—Dr. Arthur R. Reynolds, former commissioner of health of Chicago, has accepted the position of medical director of the French Lick Springs Hotel Company, French Lick Springs, Ind.

Hydrophobia.—A death from hydrophobia is reported to have occurred at the Presbyterian Hospital on July 8. The victim was bitten by a pet dog at his home in Russell, Ky., and did not receive medical attention till too late.

Mortality Statistics of Chicago.—For the week ending July 15 the total number of deaths from all causes was 447; of these 248 were females and 199 males. There were 107 deaths of children under one year. The largest number of deaths from any one cause was 72, from acute intestinal diseases. There were 49 deaths from tuberculosis, 32 from Bright's disease, 10 from apoplexy, 13 from bronchitis, 21 from cancer, 7 from convulsions, 7 from diphtheria, 30 from heart diseases, 8 from measles, 18 from nervous diseases, 26 from pneumonia, 4 from scarlet fever, 6 from typhoid fever, 4 from tetanus, 3 from whooping cough, 11 suicides, 30 from violence, and 96 from various other causes.

INDIANA.

June Morbidity and Mortality.—The monthly bulletin of the State Board of Health says: "There was less sickness than in June last year, but more deaths. The increase in deaths was almost entirely among persons of 65 years and over. Rheumatism was reported as the most prevalent malady and diarrheal diseases the next most prevalent. Pneumonia was much less prevalent than in May and less also than in June, 1904. The cancer patients present a greater mortality than in the same months last year, the figures being 120 deaths in June this year and only 71 last June. The total number of deaths was 2,482, an annual rate of 11.4. In June last year 2,203 deaths; rate 10.1. The city death rate was 13.5, the county 10.1. The city consumption death rate was 172.1 per 100,000, and the county 132.8. The violence deaths numbered 160, and 93 occurred in the country. Smallpox shows a marked increase over June, 1904, as there were 114 cases with 5 deaths, against 75 cases and 2 deaths. The most extensive smallpox epidemics: In Bartholomew County, 12 cases; Brown, 16; Madison, 13; St. Joseph, 21; Vanderburgh, 32. The 5 deaths from smallpox occurred, 1 in Noble County and 4 in South Bend. Consumption caused 354 deaths, 320 being of the pulmonary form. Of these 79 were mothers in the prime age period, 18 to 40, and they left 168 orphans under 12 years of age. Twenty-two were fathers in the same age period, and they left 45 orphans under 12. The disease invaded 251 homes with death. The cost to the state at the accepted legal value of a human life unnecessarily lost, namely, $5,000, was $1,770,000."

KENTUCKY.

Medical Society Elects Officers.—The Owensboro Medical Society met June 2 and elected the following officers for the ensuing year: President, Dr. C. H. Todd (re-elected); vice-president, Dr. E. B. McCormick; secretary, Dr. R. E. Griffin (re-elected).

Medical Colleges.—The thirty-first annual commencement exercises of the Hospital College of Medicine, Louisville, were held July 3. There were ninety-five graduates. The doctorate address was delivered by Dr. T. H. Stucky. D. M. Godby was class valedictorian.——The annual commencement exercises of Kentucky University College of Medicine were held June 30. Fifty-nine graduates received diplomas.

MARYLAND.

Report on Insane Hospital.—A report of the superintendent of Springfield Hospital for the Insane No. 2 shows that there were on June 1, 628 patients in the institution, 374 males and 254 females; on July 1 the number was 640.

Baltimore.

Health of Baltimore.—There were 274 deaths last week, representing a rate per 1,000 for whites of 21.74, for colored of 45.36.

Personal.—Dr. Thomas H. Buckler sailed for Europe July 15. ——Dr. Harry Friedenwald, recently elected president of the American Federation of Zionists, has sailed for Europe to attend as delegate the seventh Zionist congress, which meets in Basle, Switzerland, July 27.——Drs. Thomas R. Brown and Caspar Gilchrist sailed for Europe, July 18 and 22.——Dr. Hubert Richardson has been elected clinical lecturer on neurology and psychiatry, and lecturer on physiologic chemistry at the University of Maryland School of Medicine.

MICHIGAN.

Personal.—Dr. A. P. Ohlmacher, formerly of Ohio, has been appointed director of the biologic laboratories of Frederick Stearns Co., Detroit, and has entered on the active duties of the position.

University Commencement.—At the annual commencement exercises of the University of Michigan the degree of LL.D. was conferred on Theodore A. McGraw, M.D., of Detroit. The graduating class in the department of medicine and surgery numbered sixty-one. The commencement oration was given by President H. I. Pritchett of the Massachusetts Institute of Technology, who also received the degree of LL.D. The other recipients of this degree were Prof. W. W. Campbell of the Lick Observatory and United States Senator Warner of Missouri.

Mortality of Michigan During June, 1905.—The total number of deaths reported in June was 2,394, a decrease of 306 from May. The death rate was 11.4 per 1,000 population, as compared with 12.5 for the preceding month. By ages there were 396 deaths of infants under one year, 121 deaths of children aged 1 to 4 years, and 700 deaths of elderly persons aged 65 years and over. Important causes of death were as follows: Tuberculosis of the lungs, 176; other forms of tuberculosis, 26; typhoid fever, 28; diphtheria and croup, 31; scarlet fever, 10; measles, 11; whooping cough, 7; pneumonia, 98; diarrheal diseases, under 2 years, 72; cancer, 129; accidents and violence, 228, of which number 61 were deaths from drowning. There were 14 deaths from smallpox, 1 in Hill Township, Ogemaw County, and 13 in Grand Rapids. There were 4 deaths reported from tetanus 1 in Hillsdale City, 1 in Milan Township, Monroe County, and 2 in Grand Rapids. The number may be noted for comparison with the number of deaths returned from this cause for the following month as the result of Fourth of July accidents.

NEW JERSEY.

Health of Camden.—According to the monthly report of Dr. J. F. Leavitt to the Board of Health there was one case of typhoid fever reported from June 15 to July 15, or one case in a population of 85,000. This is attributed to the artesian water supply which the city now enjoys. In 1897, when the polluted water of the Delaware River was used, there were 104 cases of typhoid fever. There has been a perceptible falling off in typhoid fever ever since the installation of the artesian system. Other contagious diseases reported during the month were: Scarlet fever, 15; diphtheria, 14; consumption, 2; total, 32.

NEW YORK.

Epidemic in Camp.—An epidemic of a contagious disease, the nature of which the physicians in charge refuse to disclose, has broken out in the Sixth Battery, which is in camp in Endicott, near Binghamton. Twenty-five men are reported as affected by the disease.

Smallpox in Cohoes.—Several cases of smallpox are reported in Cohoes. The first case was discovered early in July. The isolation hospital in the town was burned down two years ago and the authorities are badly handicapped in caring for the smallpox patients at present.

Ontario County Medical Society Election.—At the annual meeting of this society, held July 12, the following officers were elected for the ensuing year: President, Dr. W. Clapper, Victor; vice-president, Dr. A. Eiseline, Shortsville; secretary and treasurer, Dr. M. R. Carson, Canandaigua; censors, Drs. C. P. W. Merritt, Clifton Springs, and G. W. Sargent, Seneca Castle.

President Roosevelt Addresses Physicians.—The Associated Physicians of Long Island, who met at Oyster Bay, July 12, listened to an address by President Roosevelt on the dignity and responsibility of the profession. He paid a special tribute to the work of Gen. Leonard Wood in Cuba. After the President had retired he and General Wood were elected honorary members of the association.

Dr. Pryor's Successor.—Dr. Melvin Page Burnham of New York has been appointed acting superintendent of the New York State Hospital for the Treatment of Incipient Pulmonary Tuberculosis at Ray Brook in place of Dr. John H. Pryor, who has resigned. Dr. Burnham has had a large experience in the sanitarium treatment of tuberculosis, and for the past three years has been the resident physician of Seton Hospital at Spuyten Duyvil, a tuberculosis sanatorium of 300 beds.

New York City.

New Pavilions for Bellevue.—Bids have been opened for two pavilions of the new Bellevue and the board of estimate has set aside $800,000 for beginning the work.

Personal.—Dr. E. V. Hubbard sailed for Queenstown on the *Majestic* on July 12. Dr. E. Guernsey Rankin sailed for Europe on *La Savoie*, July 12.——Dr. Arthur B. Duel sailed for Queenstown on the *Lucania*, July 15.

For French Hospital.—The annual picnic of the French Benevolent Society was held on July 14. The entire proceeds will be used to defray the expenses of the French Hospital in Thirty-fourth Street, which is in the process of construction.

To Enlarge Roosevelt Hospital.—Plans have been filed with the building department for the enlargement of Roosevelt Hospital by the addition of an annex between the administration building and the private patients' building. The improvement is to cost $15,000.

Heat Fatalities.—The extreme hot weather has been the direct cause of 55 deaths and over 200 prostrations in New York and Brooklyn during the week ending July 15. The floating hospital of St. John's Guild carried 1,024 patients on July 10, and 1,099 on July 11.

Twenty-five Quarantined.—The steamship *Alliance*, arrived from Colon, had on board 25 passengers with high temperatures, who were detained at quarantine to await developments. None has shown any symptoms of yellow fever; in one case the temperature is attributed to malarial fever.

Water Famine Threatened.—There is a serious shortage of water and a threatened famine in several of the towns on Staten Island. The shortage is due to increased consumption of water at South and Midland beaches. Brooklyn is also threatened with a water famine, there being less than two weeks' supply available.

New Hospital—A new emergency hospital, St. Grgeory's, was opened June 30 at 93 Gold Street, Brooklyn. It is designed to relieve the overcrowded condition of the House of Relief in Gold Street. Its staff is made up of Superintendent Flater, Assistant Superintendent Dunca, three ambulance surgeons, two visiting surgeons and four nurses.

New Brooklyn Hospital.—The commissioner of charities has purchased a piece of property in Dumont Street as the site for a hospital which is to take the place of the Bradford Street Hospital. The building will have a frontage of 200 feet and a depth of 280 feet. The small structure at first erected will cost $60,000 and wings will be added to this later.

Frank Canned Goods.—The *Bureau of Chemistry* of the Department of Agriculture recently condemned a large quantity of canned goods imported by grocers in this city. It was ordered that these goods be either re-exported or destroyed. The importers had the order modified and these goods will be sold provided they are labeled in such a way as to show the defect.

Contagious Diseases.—There were reported to the sanitary bureau for the week ending July 8, 447 cases of measles, with 16 deaths; 395 cases of tuberculosis, with 167 deaths; 261 cases of diphtheria and croup, with 20 deaths; 59 cases of typhoid fever, with 13 deaths; 27 cases of cerebrospinal meningitis, with 29 deaths; 74 cases of scarlet fever, and 24 cases of varicella.

New Superintendent for Bellevue.—The selection of a general medical superintendent of Bellevue and the allied hospitals which has been in question for more than a year, was decided on July 13, when Dr. Samuel T. Armstrong formally accepted the position. Dr. Armstrong was selected because he is considered peculiarly fitted for the duties involved, as he has had a wide experience in the army and navy as well as in the hospitals of this city.

City Consumptive Hospital.—The board of health has received an appropriation of $250,000 for the establishment of a sanitarium at Mount Hope, Orange County. The department has recommended the purchase of 1,200 acres of land. It is the intention of Dr. Darlington to use the buildings already built while awaiting the construction of the hospital. This will allow for the care of 400 consumptives at once. There are in New York City about 25,000 consumptives and the health board will endeavor to inform them of the steps taken for their care.

PENNSYLVANIA.

Personal.—Dr. Frederic Corss and wife of Kingston, Pa., have started on a tour through the Yellowstone National Park and Alaska.——Dr. Edward J. Hadfield of Phoenixville was held by the magistrate's court in $1,000 bail for his appearance in the next term of county court, charged with performing a criminal operation.

"Itinerant" Physicians Arrested.—Dr. W. S. Madden, traveling with the Wittman Medical Company, was arrested by the Medical Association of Monessen, charged with being an itinerant physician without the proper credentials. He was held for trial under the act of 1877 and its supplement of 1897, which require a daily license costing $10 a day. "Doctor" Wittman, who sells medicine and does wonderful cures, was arrested several days later under the act of 1877 and held over for trial; he deposited a certified check for $400. He does not claim to be a physician, but his name appears on the labels of the medicine sold as doctor. Dr. Madden is registered under the act of 1871, but is still liable unless he complies with the act of 1897.

Philadelphia.

June's Vital Statistics.—During the month of June 1,735 deaths were reported and 2,483 births. The births, therefore, exceeded the deaths by 648.

Milk Inspection for June.—The number of inspections made were 6,063, and 141,957 quarts were inspected. Of this number 2,442 quarts were condemned 2,617 chemical examinations were made, and 865 microscopic examinations.

Banquet to Dr. Staller.—Dr. Max Staller was tendered a banquet at Mosebach's, July 7, by his professional friends. Dr. Staller is chief surgeon of Mount Sinai Hospital. About fifty guests attended the banquet. Dr. Staller leaves for Vienna, to be absent for some months, in the near future.

Dr. Patterson Gets Post.—Dr. Ross D. Patterson, assistant in the department of the insane in the Philadelphia Hospital was appointed assistant chief resident physician in the Philadelphia General Hospital, July 11. He succeeds Dr. Frederick G. Johnson. Dr. Patterson graduated from the Jefferson Medical College in 1904.

Physician Against Druggist.—Dr. Harry L. Sickel obtained a capias for the arrest of J. R. Tilton, a druggist, in a suit for $10,000 damages for alleged slander. Judge von Moschzisker fixed the defendant's bail at $1,500. The complainant declares that Tilton attacked his ability as a physician to patients who visited the druggist's store.

Bacteriologic Laboratory Report.—The report of the bacteriologic laboratory for the month of June shows that 2,139 specimens were examined for diphtheria bacilli; 473 examinations were made of typhoid fever blood; 928 examinations were made of milk, and 134 of sputum. The laboratory supplied 960 bottles of antitoxin, and 128 chemical analyses were made.

Medical Inspection for June.—The number of inspections made by the medical inspectors, excluding schools, during the month of June aggregated 2,749. They ordered 498 fumigations and examined 46 patients for special diagnosis. In the different schools throughout the city 6,363 inspections were made, and out of this number 384 children were excluded from school. They took 192 cultures, made 32 injections of antitoxin and performed 343 vaccinations.

Personal.—Dr. Alfred Heineberg was appointed assistant professor of materia medica in the Philadelphia College of Pharmacy, July 1.——Dr. Duffield Robinson and wife sailed for Europe, July 12. They will be absent until the middle of September.——Dr. Joseph H. Lopez was elected medical director of the Charity Hospital.——The following physicians sailed for Europe on the steamship *Merion*, July 8: Drs. Ella B. Everitt, A. A. Stevenson, W. M. Ziegler and W. C. Stillwell.

Sanitarium Must Move.—In an opinion file in common pleas court July 11 Judge Beitler decided that the restriction in conveyances of the ground prohibits the maintenance of the open-air tuberculosis sanitarium at Mount Airy. Neighbors object to the hospital, which consists of several tents. They complained that they were annoyed by the coughing of the patients and that the establishment was a menace to the health of the community. The judge visited the sanitarium and was convinced that the superintendent was doing everything to make the sanitarium as little annoyance as possible, but he said that he found the institution did affect the comfort o [illegible] In reaching his conclusion he took into [illegible] that there is at least a doubt whether [illegible] o injuriously affect those residing near by.

Coroner Condemns Headache Powders.—The indiscriminate and excessive use of orangeine and similar headache powders, containing acetanilid and kindred drugs, was condemned by Coroner Dugan in a lengthy statement before the court at an inquest held in the case of the death of a young married woman. The autopsy, by Dr. T. J. Morton, coroner's physician, indicated that death was due to the use of the headache powders. Chemical analysis of orangeine powders showed that the principal ingredient contained was acetanilid. The coroner said: "One of the chief dangers is that these powders are advertised as being harmless, thereby leading persons afflicted to take them freely." He further said that the same remedy prescribed by a physician would be taken only at regular intervals, thus removing one of the very objectionable features of this class of drugs.

House-to-House Inspection.—Dr. Edward Martin, director of the Department of Health, has issued orders for a house-to-house inspection of the city. This inspection is made principally to give succor to the infants, and to give advice regarding treatment of the little ones during the heated term. A full record of the vaccination of all persons in each district is to be made. The inspectors have been instructed in case of finding any infant requiring medical attention, to advise the family to call their regular physician. In case the family is too poor to secure the services of a physician, the ward physician will be directed to attend and he will prescribe and authorize free medicine. The inspectors were further instructed to examine the arms of all who have not undergone vaccination for five years, and to urge on them the necessity of having it again performed.

Health Report.—The deaths from all causes during the week aggregated 548, as compared with 483 last week, and 466 in the corresponding week of last year. The total number of deaths of infants under 2 years during the week reached 120, as compared with 94 last week, and 58 the preceding week. The specific ailment was enteritis. In addition there were 14 deaths due to this disease among children over 2 years of age. In all there were 169 deaths of infancy. This high mortality among infants is attributed to the extremely hot weather. The principal causes of death were: Typhoid fever, 6; erysipelas, 4; pulmonary tuberculosis, 52; cancer, 26; apoplexy, 28; heart disease, 33; acute respiratory disease, 23; enteritis (under 2 years), 120; enteritis (over 2 years), 14; Bright's disease, 36. There were 169 cases of contagious disease reported with 14 deaths, as compared with 157 cases and 15 deaths reported during the previous week.

TENNESSEE.

University of Nashville Commencement Exercises.—The annual commencement exercises of the spring class of the University of Nashville were held June 30. Nineteen graduates received diplomas.

GENERAL.

Queen's Hospital, Honolulu.—The Pauahi wing in Queen's Hospital was formally opened June 23.

Ecuador Bars Vessels from Panama.—According to a recent cable report, the health authorities of Ecuador have declared Panama to be infected with bubonic plague and have declared a quarantine against vessels from Panama ports.

Baltimore & Ohio Association of Railway Surgeons.—The annual meeting of this association was held at Pittsburg, Pa., June 28-30. The following officers were elected for the ensuing year: President, Dr. J. F. Thompson, Garrett, Ind.; vice-presidents, Drs. E. S. Montgomery, Pittsburg, Pa., and John E. Russell, Mount Vernon, Ohio; secretary and treasurer, Dr. J. H. Kennedy, Aberdeen, Md.; assistant secretary and treasurer, Dr. S. A. Richardson, Philadelphia. The next annual meeting will be held in Philadelphia.

Health Report of the Philippines for March.—The report of the Board of Health for the Philippine Islands and the city of Manila shows that during March 583 births were registered, of which 304 were males and 279 females; 510 were legitimate and 73 illegitimate. The birth rate per 1,000 is 31.23. During the month 617 deaths were reported, of which 54 were transients and 563 residents; 175 less than in March, 1904. Ten cases of plague were reported, with 9 deaths. There were 4 cases of smallpox, with no deaths.

FOREIGN.

The Floating Sanatorium.—The "sanatorium trip" planned for the *Fürst Bismarck*, one of the vessels of the Hamburg-American line, has been abandoned for lack of patronage.

Plague in India.—According to the *Lancet*, the mortality from plague continues to decrease. A month ago the deaths from this cause were over 50,000 a week; now they are only about 15,000.

Smallpox in Chili.—According to a cable report, the smallpox epidemic in Valparaiso is growing daily. Deaths sometimes exceed 50 a day. It is reported that there are at least 1,200 smallpox patients in the city.

American Hospital in Turkey.—An American hospital and training school for nurses is to be established in Constantinople. Dr. Thomas S. Carrington is to have charge of the hospital. He will take with him to Turkey several American trained nurses.

International Congress of Hydrology and Physicotherapy.—The seventh International Congress for Hydrology, Climatology, Geology and Physicotherapy is announced to open at Venice, October 10. The secretary is Dr. F. Oreffice, S. Stefano 2803, Venice, Italy.

Physicians' House.—The local medical society of Brussels, Belgium, has rented a building to be known as the "Physicians' House"—*maison des médecins*—for a general club house and gathering place for physicians, with headquarters for the local and district medical societies, hall for lectures, rooms for libraries and archives, etc.

Seventieth Birthday of Professor Olshausen.—Our Berlin exchanges pay homage this week to the Berlin gynecologist and obstetrician, R. Olshausen, chief of the Berlin University Gynecologic Clinic, editor of the *Zeitft. f. Geb. und Gynäkologie* since 1887, and author of numerous works on his specialty. His seventieth birthday arrived July 3, but he declined the ovation his friends had planned in his honor.

Second National Congress of Russian Psychiatrists.—Russia held a national congress for psychiatry about the same year as the first ones were held in other countries. Eighteen years have passed and Sikorski is now organizing the second congress, Kiev, September 4, the place and date of meeting. Besides psychiatrists and neurologists, jurists, teachers, architects and scientists generally are invited to take part in the congress as members of consulting boards.

Eleventh German Congress of Gynecology.—This congress met at Kiel June 14 to 17, with Werth in the chair. His address was on the literary overproduction in gynecology, as well as in other branches of medicine, and on means to combat effectually this excessive literary output. It has grown to its present proportions, he remarked, by the way in which scientific work has been facilitated by modern technical devices, and by the unprecedented development of the medical press and the exaggerated importance attributed to literary productions by physicians themselves and by the public. It is actually impossible to-day to keep an oversight over the entire field of current literature, notwithstanding the well-organized abstract departments of the better journals and of the Centralblatts. He proposes to reform by restricting communications to what is actually new, by condensing and using a terse, clean-cut style. "Instrumental Dilatation of the Uterus" was the first subject discussed, and both Leopold and Bumm, who delivered the addresses, spoke in favor of mechanical dilatation for certain strictly indicated cases. The latter thinks that neither the Bossi instrument nor vaginal hysterotomy can be recommended to the general practitioner. Eclampsia and placenta prævia he accepts as indications for vaginal hysterotomy. Liepmann confirmed his previous assertions in regard to the special toxicity of the eclampsia placenta, as mentioned in these columns recently, page 1888 of the last volume. Schatz stated that in animals the father determines the duration of gestation when breeds are crossed. He remarked that husband and wife grow to look more and more alike with time, the father perhaps influencing the maternal organism through the fetal in the course of various pregnancies. Pfannenstiel and Hofmeier presented the second theme: "The Remote Results of Ovariotomy." The disturbances of the premature menopause after bilateral ovariotomy they do not regard as important except in women previously inclined to be nervous. The remote results of ovariotomy depend on the nature of the tumor. "Retention tumors," a dermoid cyst, fibroma and pseudo-mucinous cystadenoma are not malignant, and the removal of the infected ovary proves sufficient for a permanent cure. In case of carcinoma, it is still an open question whether it is necessary to remove the apparently sound mate in case of cancerous degeneration of an ovarian tumor. They include carcinoma with the above four classes in the group of "non-dubious tumors," classing as "anatomically dubious" the papillary serous cystadenoma, pseudo-myxoma, sarcoma, endothelioma, perithelioma, myxoma and teratoma. If both ovaries are affected, the uterus and broad ligaments had better be removed with them. The best results are obtained in the first two kinds, even when bilateral, but permanent cures have been realized also with unilateral sarcoma and teratoma, leaving the apparently sound ovary. Queissner recommends treating the apparently sound mate, when it is to be left, by decapsulation, similar to Edebohls' operation on the kidney. His experience with it in three cases has been very promising. Frankenstein of Kiel stated that ischuria was observed in only 9.7 per cent. of 875 gynecologic cases in which the bladder had been filled with 9 per cent. saline solution after the operation, under visual control through the abdomen. Ischuria developed in 55 per cent. of 91 cases in which this precaution was not taken. By this distension of the bladder, the pelvic viscera are pushed more into their normal positions. Hoehne of Kiel reported that in 236 cases of pseudo-mucinous cystoma, 9 of the patients succumbed later to carcinoma in the small pelvis or elsewhere. They were under observation for from two to twenty-eight years. The next congress will be held at Dresden in 1907, with Leopold as president. "Operations That Enlarge the Pelvis" will be the first subject to be discussed, followed by "Asepsis in Gynecologic Operations." The *Centralblatt f. Gynäkologie* has the detailed report of the congress in Nos. 26 and 27, but the last *Deutsche med. Wochft.* and the *Münchener med. Wochft.* have each a summary of the transactions.

Correspondence

The Dangers of Acetanilid.

Dodge City, Kan., July 14, 1905.

To the Editor:—I was walking along the street some months ago and overtook my venerable friend, the Methodist minister, who said "Doctor, I'm glad to see you. What is antikamnia?" I told him that it is a mixture of uncertain composition, used with greater or less success for the relief of pain; that its principal constituent is acetanilid, a valuable remedy under certain conditions, but dangerous when used by the laity.

The old gentleman took from his vest pocket a little square box containing twenty-five tablets of about five grains each. The box was labeled "antikamnia," and the legend declared that the remedy would cure a number of unpleasant and more or less dangerous conditions to which humanity is subject, but there was not a word to indicate the size of the dose or the frequency with which it might be repeated. The minister told me he had received it through the mails with the compliments of the Antikamnia Company, and without other instructions or information than was printed on the box.

My friend resented the "compliments" of the Antikamnia Company, presented in this manner, and my heart warmed to him; for are there not many of his kind who, not content with prescribing biblical relief for moral sickness, undertake to extend their practice so far at least as to prescribe for physical ailments some of the quack remedies advertised in church papers? Therefore, when my friend made it plain that he was insulted by the "compliments" aforesaid, my heart warmed to him.

I told him that in every state there is a law restricting the practice of medicine to those who have made long and careful preparation for discharging the heavy responsibilities involved in such practice; and that there is a like law governing the compounding of prescriptions and the dispensing of drugs; but that any one is permitted to send anywhere in the United States dangerous drugs, by simply paying the postage, an example of which privilege was before us.

"Doctor," said my friend, "this is simply infamous. I wonder why the postal authorities permit it."

And I wondered, and am wondering yet.

W. H. Graves.

Chronic Purpura Hemorrhagica.

Chicago, July 14, 1905.

To the Editor:—As a sequel to The Journal's editorial, June 10, on "Chronic Purpura Hemorrhagica," a case purporting to be one of that disease was reported in The Journal, July 8, by Dr. H. H. Loveland. Considerable confusion naturally exists in the classification of a group of diseases about which we know so little as those of the hemorrhagic group. Still we are justified in differentiating sharply between scurvy and hemophilia, and between a typical hemophilia and any of the members of the purpura hemorrhagica group. It would seem to me ill-advised to classify the above mentioned case as one of an extremely rare and, to say the least, imperfectly established disease, when it presents no features incompatible with, and many speaking quite directly in favor of, a diagnosis of typical hemophilia. Perhaps too little attention is paid to the fact clearly pointed out by Litten that such symptoms as petechiæ, ecchymoses, pains in the joints and even arthritises are met with in all diseases of the hemorrhagic group, and can have no real value in differentiating one from another. So far then as the symptoms themselves go, Loveland's case might be either hemophilia or purpura hemorrhagica The fact that the patient's father and mother were healthy has no significance, since hemophilia is generally transmitted through the mother who personally shows no symptoms. It would be of more interest to know whether any of her brothers or mother's brothers had bleeding tendencies. On the other hand, the statement that out of twelve children of the patient's family five died in infancy, is highly suggestive, as such occurrences often have been recorded in bleeder families. Further, the author states: "I do not know when the purpura began, but it must have been in the very early months," suggesting that it may have been congenital; and again, that he never, in a period of about eight years, saw the patient free from signs of the bleeding tendency, indicating a remarkably persistent, uniform course. Both of these observations tend to confirm the hemophilia idea, and to discredit the other, since most of the purpuras attacking young infants result fatally, and granting the possible establishment of the disease after birth, it would be, to say the least, extremely rare for it to run such a uniform chronic course. It is of some interest to know also that the patient was a boy. With regard to the question of scurvy, that disease can be eliminated from the discussion on the history of the diet alone, if for no other resaon.

R. T. Woodyat.

Deaths

Augustus Palmer Dudley, M.D. Dartmouth Medical College, 1878, of New York City, member of the American Medical Association, International Gynecological Society, American Gynecological Society, New York Obstetrical Society, New York Academy of Medicine, professor of gynecology in the Postgraduate Medical School and Hospital, surgeon Harlem Hospital, professor of gynecology Medical School of University of Vermont, died of pulmonary tuberculosis in Liverpool, Eng., July 15, while on his way to attend the International Congress of Gynecology at St. Petersburg, aged 52. Dr. Dudley was chairman of the Section on Obstetrics and Diseases of Women in 1893, and was a regular attendant on and participant in the work of that Section and of the Association. He was a frequent contributor to medical journals and was recognized as a high authority on gynecologic subjects and as a surgeon of marked ability.

William C. Jacobs, M.D. Medical College of Ohio, 1862, member of the American Medical Association, Mississippi Valley Medical Association, Summit County and Ohio medical societies, Union Medical Association of Northeast Ohio, Cleveland Medical Society, died at his home, Akron, Ohio, after a short illness, of septicemia following a pin prick sustained while treating a patient, aged 65.

Edward S. Wood, M.D. Harvard, 1871, professor of chemistry Harvard, member American Public Health Association, American Pharmaceutical Association, Boston Society for Medical Improvement, Massachusetts Medical Society, died at his summer home in Pocasset, Mass., of cancer of the intestines.

William A. Moal, M.D. University of Maryland, 1879, of Baltimore, died at the Johns Hopkins Hospital, July 12, after an operation for appendicitis, aged 56. He was joint author with the late H. Newell Martin of a work on dissection. He had not practiced for a number of years.

Walter McCandless, M.D. University and Bellevue Hospital Medical College, New York, 1899, died in Pittsburg, suddenly, while having teeth extracted, July 10. Death occurred during early administration of an anesthetic.

Edwin Stanton Fowler, M.D. University of the City of New York, formerly of Springfield, Ill., died at the North Shore Health Resort, Winnetka, Ill., July 11, aged 77.

Clarence G. Kiefer, M.D. Baltimore University School of Medicine, 1892, of Baltimore, died at the City Hospital, Baltimore, July 11, after a long illness, aged 37.

George H. Moran, M.D. University of Maryland, 1865, of Morgantown, N. C., died at the Whitehead Hospital, Salisbury, N. C., June 23, after an operation, aged 65.

Herman A. Newbold, M.D. Hahnemann Medical College, Philadelphia, 1895, died at his home in Morristown, N. J., July 10, aged 30.

Howard Ogle, M.D. Jefferson Medical College, Philadelphia, 1869, died at his home in Wilmington, Del., July 12.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

REPRESENTATIVE GERMAN MEDICAL JOURNALS AND DICTIONARIES.

IOWA FALLS, IOWA, July 12, 1905.

To the Editor:—Sometime since I saw recommended a book for practitioners to aid them in securing a working knowledge of the German language. If you know of such a publication please give me the name of publishers, price, etc. J. L. CHASSELL, M.D.

ANSWER.—The only book concerning which we can find that THE JOURNAL has said anything approaching the above quotation is the dictionary of Lang & Abrahams, which was referred to May 6, 1905. On this subject see our answer to Dr. Bush below.

CHARLESTON, ILL., July 10, 1905.

To the Editor:—Will you mention in THE JOURNAL three or four medical publications in the German language (and give subscription prices) that would be best for one wishing to take up the study of medical German—one who has only a limited knowledge of that language, and also a dictionary giving the German words, with definitions in English. J. H. BUSH, M.D.

ANSWER.—As you will see by consulting the Foreign Current Medical Literature department in THE JOURNAL the weeklies contain the cream of the general scientific communications as a rule. Even when articles are published in detail elsewhere, the preliminary report usually appears in one of the great weeklies. The *Münchener med. Wochenschrift* is the oldest German weekly, being now in its fifty-second volume, the *Deutsche med. Wochenschrift* is in its thirty-first. The subscription price is the same for each, 32 marks, or a little less than $8, including postage. Each number has from thirty to fifty or sixty pages. The Vienna weeklies are much smaller, the *Wiener klin. Rundschau* and the *Wiener klin. Wochenschrift* averaging from ten to twenty pages. They cost respectively $6 and $5 a year. Lang & Abrahams' new German-English medical dictionary, published by P. Blakiston's Son & Co., 112 Walnut Street, Philadelphia, 1905, for $4, is proving satisfactory, but in purchasing a medical dictionary for foreign terms John S. Billing's *fine dictionary, which contains the medical terms* in five languages in a single alphabetical sequence, will be found invaluable. Current medical literature contains so many French and Italian, as well as English, German and Latin terms, that a dictionary with these five languages is none too compendious, and a reading knowledge of French is readily acquired. Billings' dictionary, the "National," is published by Lea Bros. & Co., 706 Sansom Street, Philadelphia, for $12. A "bargain" copy was advertised for $5 in a recent issue of THE JOURNAL. The *Münchener med. Wochft.*, mentioned above is published by J. F. Lehman, Heustrasse 20, Munich, Germany (specimen numbers sent free on application); the *Deutsche med. Wochft.*, by G. Thieme, Rabensteinplatz, 2, Leipsic, Germany, although edited at Berlin. The address of the *Wiener klin. Wochft.* is W. Braumüller, Wickenburggasse 13, Vienna, Austria, and of the *Wiener klin. Rundschau*, is Mariahilferstrasse 62, Vienna, Austria. Among the numerous other excellent journals are the monthly *Therapie der Gegenwart*, published at Berlin, N. Friedrichstrasse 105, for $3, and the weekly *Centralblatts*, published at Leipsic, Kürnbergerstrasse 36-38, for $5 a year, or the three combined—surgery, gynecology and internal medicine—at reduced rates. They are principally devoted to abstracts. One of the best means to aid in obtaining proficiency in reading a foreign language is to go over a foreign article, sentence by sentence, comparing it with a literal translation of the same. Opportunity for this is afforded when a medical writer publishes a communication simultaneously in this country or England and in Germany or France. Such opportunities can frequently be found by watching the index in the Current Literature department, as, for example, an article on Weil's disease, by Max Einhorn, published in English in the *American Journal of Medical Sciences*, Philadelphia, November, 1904, and in German in the *Archiv f. Verdauungskrankheiten*, vol. x, No. 5, published by S. Karger, Kalstrasse 15, Berlin, Germany.

WOODBRIDGE TREATMENT OF TYPHOID FEVER.

BESSEMER, ALA., July 8, 1905.

To the Editor:—What is the Woodbridge treatment of typhoid fever? What does the medical profession think of it? If you had a patient who insisted on your using the Woodbridge treatment, would you use it or retire? GEO. A. HOGAN.

ANSWER.—The Woodbridge treatment advocates the use of purgatives and antiseptics, as follows: On the appearance of the earliest symptoms of fever and even previous to a diagnosis the following tablet is given:

℞.	Res. podophyllin	gr. 1/960	000067
	Hydrarg. chloridi mitis	gr. 1/16	004
	Guaiacol carb.	gr. 1/16	004
	Menthol	gr. 1/16	004
	Eucalyptol q. s.		

M. Sig.: One such tablet given every fifteen minutes for twenty-four hours, and larger doses if necessary during the second twenty-four hours, until five or six free evacuations are obtained.

On the third or fourth day of the treatment, the following:

℞.	Res. podophyllin	gr. 1/960	000067
	Hydrarg chlor. mitis	gr. 1/16	004
	Guaiacol carb.	gr. 1/4	016
	Menthol	gr. 1/16	004
	Thymol.	gr. 1/16	004
	Eucalyyptol q. s.		

M. Sig.: One such tablet every one or two hours.

About the fourth or fifth day the following capsule is given:

℞.	Guaiacol carb.	gr. iii	18
	Thymol	gr. i	06
	Menthol	gr. ss	03
	Eucalyptol	m. v	30

M. *Sig.: One such capsule every three or four hours, alternating with the tablets.*

Large draughts of sterilized water are ordered with each dose of medicine, and if indicated some laxative mineral water.

The patient should be treated and not the disease alone. Consequently the Woodbridge treatment is faulty in that respect, and is not employed very extensively in the treatment of typhoid fever. The judgment of the physician and not that of the patient should be consulted in outlining the treatment in a case of typhoid fever. If the physician thinks the Woodbridge treatment indicated, he can humor the patient by using it: if he thinks it contraindicated, however, he would better retire from the case rather than allow the patient to dictate to him.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending July 15, 1905:

Wakeman, Wm, J., surgeon, left Fort Thomas, Ky., on thirty days' leave of absence.

Gandy, Charles M., surgeon, granted twenty days' leave of absence.

Hallock, H. M., asst.-surgeon, ordered to report without delay to Major Wm. H. Arthur, surgeon, president examining board, Washington, D. C., for physical examination to determine his fitness for promotion.

Stiles, Henry R., asst.-surgeon, retired from active service on account of disability, with rank of major, to date from July 1, 1905.

Carter, Edward C., surgeon, assigned to duty at Fort Leavenworth, Kans.

Schreiner, E. R., asst.-surgeon, relieved from duty at Fort McHenry, Maryland, and ordered to Washington Barracks, D. C., for duty.

Bourke, James, asst.-surgeon, ordered to proceed from New York City to Fort McHenry, Md., for temporary duty.

Halloran, Paul S., asst.-surgeon, granted leave of absence for one month, with permission to apply for two months' extension.

Jean, Geo. W., asst.-surgeon, ordered to proceed from Fort Adams, R. I., to Fort Porter, N. Y., for temporary duty.

Hallock, H. M., asst.-surgeon, granted fourteen days' leave of absence.

Koerper, C. E., asst.-surgeon, will in addition to present duties at Army General Hospital, Washington Barracks, D. C., report in person to commanding officer, Washington Barracks, D. C., for temporary duty.

Perley, Harry O., deputy surgeon general, left West Point, N. Y., on twenty-one days' leave of absence.

Jones, Percy L., asst.-surgeon, leave of absence extended ten days.

Howard, D. C., asst.-surgeon; so much as remains of the ordinary leave of absence is changed to sick leave of absence and extended one month and fifteen days.

Hall, James F., asst.-surgeon, recently arrived at San Francisco, Cal., is assigned to duty at the U. S. Army General Hospital, Presidio of San Francisco, Cal.

Keller, Wm. L., asst.-surgeon, relieved from duty at Army General Hospital, Presidio of San Francisco, Cal., and ordered to Fort Douglas, Utah, for duty.

Carter, E. C., asst.-surgeon, granted two months' leave of absence.

White, J., Samuel, contract surgeon, ordered from Fort Snelling, Minn., to Fort Harrison, Mont., for temporary duty.

Holmes, Thomas G., contract surgeon, returned to Fort Wayne, Mich., from duty with troops en route from Fort Sheridan, Ill., to Fort Sill, Okla.

Kelly, John P., contract surgeon, left Fort Riley, Kans., on four months' leave of absence.

Sievers, Robert E., contract surgeon, left Fort Harrison, Mont., and arrived at Fort Yellowstone, Wyo., for temporary duty.

Wall, Francis M., contract surgeon, ordered from Fort Oglethorpe, Ga., to Fort *Tremont*, S. C., for temporary duty.

Marshall, John S., examining and supervising dental surgeon, left San Francisco, Cal., July 9, to represent the Dental Corps of the Army at the Lewis and Clark Dental Congress, Portland, Ore., July 17 to 20.

Probert, Merton A., contract surgeon, relieved from duty at Fort Crook, Nebr., and ordered to his home for annulment of contract.

Scott, Sidney L., contract surgeon, relieved from duty at Washington Barracks, D. C., and ordered to duty at the Army General Hospital, Washington, D. C.

Vaughan, Milton, contract surgeon, relieved from duty at Fort Douglas, Utah, and ordered to duty at Fort Crook, Neb.

Suggs, Frank, contract surgeon, granted sick leave of absence for two months, to take effect when discharged from the Army General Hospital, Presidio of San Francisco, Cal.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending July 15, 1905:

Richardson, R. R., P. A. surgeon, commissioned P. A. surgeon, with rank of lieutenant, from May 16, 1904.

Fauntleroy, A. M., P. A. surgeon, commissioned P. A. surgeon, with rank of Lieutenant, from Sept. 29, 1904.

Sutton, R. L., asst.-surgeon, having been examined by a retiring board and found incapacitated for active service on account of disability incident thereto, is retired from active service, June 30, 1905, in accordance with the provisions of Section 1453, Revised Statutes.

Payne, J. H., P. A. surgeon, detached from the *Pennsylvania* and ordered to the *Nashville*.

Mayers, G. M., asst.-surgeon, ordered to the Naval Training Station, Newport, R. I., with additional duty on the *Constellation*.

Cather, D. C., asst.-surgeon, detached from the Naval Training Station, Newport, R. I., and ordered to the *Pennsylvania*

Mears, J. B., acting asst.-surgeon, ordered to duty with the Torpedo Flotilla of the Coast Squadron.

Ohnesorg, K., P. A. surgeon, ordered to the *Mayflower*.

Thompson, E., surgeon, detached from the *Des Moines* and ordered home to wait orders.

Hoyt, R. E., asst.-surgeon, ordered to the Naval Academy.

Gordon, F. T., detached from the Naval Dispensary, Washington, D. C., and ordered home to wait orders, after discharging from treatment at the Naval Hospital.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine Hospital service for the seven days ending July 12, 1905.

Irwin, Fairfax, surgeon, granted leave of absence for one month, from August 8.

Sprague, E. K., P. A. surgeon, leave of absence for one month, from June 27, 1905, granted by bureau letter June 10, amended so that said leave shall be effective from July 5.

Parker, H. B., P. A. surgeon, granted leave of absence for ten days from June 16, on account of sickness.

Amesse, J. W., P. A. surgeon, granted leave of absence for three days, from July 11

Earle, B. H., asst.-surgeon, bureau telegram granting leave of absence for seven days from June 25, amended so that said leave shall be from June 27.

Stimson, A. M., asst. surgeon, granted leave of absence for one month and fourteen days, from July 21.

Rucker, W. C., assistant surgeon, granted leave of absence for seven days, from July 6, 1905, under paragraph 191 of the regulations.

Collins, G. L., asst.-surgeon, granted leave of absence for four days, from July 5, 1905, under paragraph 191 of the regulations.

Frost, W. H., asst.-surgeon, granted leave of absence for two days, from June 24, under paragraph 191 of the regulations.

Bailey, C. W., acting asst.-surgeon, granted leave of absence for seven days, from July 12.

Richardson, N. D., acting asst.-surgeon, granted leave of absence for five days under paragraph 210 of the regulations.

Sinclair, A. N., acting asst.-surgeon, granted leave of absence for thirty days, from July 8.

Achenbach, J., pharmacist, relieved from duty at the Marine-Hospital, Port Townsend, Wash., and directed to report to the medical officer in command of the Port Townsend quarantine station for duty.

Gibson, F. L., pharmacist, to proceed to Portland, Ore., for duty in connection with the service exhibit at the Lewis and Clark Exposition.

Troxler, R. F., pharmacist, relieved from duty at the Port Townsend quarantine station, and assigned to duty at the Marine Hospital, Port Townsend, Wash., effective May 10.

BOARDS CONVENED.

Board to meet at Key West, Fla., July 7, 1905, for the physical examination of an officer of the Revenue Cutter Service. Detail for the bo[illegible] chairman; Acting Asst.-Surgeon S. D.

Board to [illegible] July 12, 1905, for the consideration [illegible] B. H. Earle, M. [illegible] fitness for promotion to the grade of passed [illegible] tail for the board: Assistant Surgeon-Gener [illegible] irman; P. A. Surgeon Jos. Goldberger; Assistant Surgeon J. W. Trask, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the period from June 30 to July 7, 1905:

SMALLPOX—UNITED STATES.

Illinois: Chicago, June 17-July 1, 37 cases, 4 deaths.
[illegible] e 17-July 1, 5 cases.
[illegible] 5, 1 case.
[illegible] 1 case.
[illegible] 24-July 1, 2 cases.
[illegible] June 17-24, 2 cases.
[illegible] e 17-24, 6.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, March 1-31, 54 deaths.
China: Shanghai, May 24, present.
France: Lyon, May 27-June 3, 1 case.
Great Britain: Birmingham, June 3-17, 10 cases. Cardiff, 2 cases.
India: Bombay, May 23-June 6, 43 deaths: Karachi, May 21-June 6, 9 cases, 2 deaths; Madras, May 20-26, 5 deaths.
Italy: Catania Province, June 8-15, 17 cases; Cosenza Province, 5 cases; Lecce Province, 6 cases; Messina, June 3-10, 3 cases; Palermo, 4 cases.
Mexico: Mexico City, June 3-10, 4 cases, 4 deaths.
Russia: Moscow, May 27-June 3, 28 cases, 10 deaths; Odessa, May 27-June 3, 9 cases 3 deaths.

YELLOW FEVER—FOREIGN.

British Honduras: Belize, June 15-22, 1 death.
Guatemala: Livingston, June 10-22, 5 cases, 4 deaths.
Panama: Colon, June 16-21, 6 cases, 2 deaths; Corozal, 2 cases; Empire, 1 case; La Boca, 2 cases; Panama, 10 cases, 1 death.
Venezuela: Maracaibo, June 16, present.

CHOLERA—FOREIGN.

India: Bombay, May 23-30, 1 death.

PLAGUE—INSULAR.

Hawaii: Honolulu, July 5, 1 death: Olaa, June 30, 1 death.

PLAGUE—FOREIGN.

Egypt: General, May 20-June 3, 17 cases; 12 deaths.
India: General, May 13-20, 41,213 cases, 35,492 deaths; Bombay, May 23-June 6, 708 deaths; Karachi, May 21-June 6, 183 cases, 166 deaths; Madras, May 20-26, 3 deaths.
Japan: Chiba, Ken., May 29, 1 death: Tokyo, April 18-May 30, 8 cases, 6 deaths.
Peru, Callao, June 11, 1 case: Payta, June 12, present.

Society Proceedings

AMERICAN SURGICAL ASSOCIATON.

Twenty-sixth Annual Meeting, held at San Francisco, July 5-7, 1905.

The President, Dr. George Ben Johnston, in the Chair.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. Albert Vander Veer, Albany, N. Y.; vice-presidents, Drs. James E. Moore, Minneapolis, and John C. Munro, Boston; secretary, Dr. Dudley P. Allen, Cleveland, Ohio, re-elected; treasurer, Dr. George R. Fowler, Brooklyn, re-elected; recorder, Dr. Richard H. Harte, Philadelphia.

Cleveland, Ohio, was selected as the place for holding the next annual meeting, the time to be fixed by the committee on annual meeting.

President's Address on John Petér Mettauer.

After a brief executive session, Dr. Emmet Rixford, San Francisco, the first vice-president, took the chair and Dr. Johnston delivered his address on Dr. John Peter Mettauer, who was born in 1787. His medical education was carried on under the most favorable conditions obtainable in America at that time. For a period of about forty years the number of surgical patients who gathered to him for treatment was such that he had constantly from forty to sixty patients under his care. Dr. Johnston said that Dudley's great record in cutting for stone 225 times in a practice of forty years must yield to Mettauer's total of 400 operations, and that the number of strictures relieved by him was something over 200. Johnston mentioned three operations performed by Mettauer in the last week of his life, when at the age of 88 his eyes were yet keen enough and his hands steady enough for him to perform a successful operation for cataract, for stone, and for amputation of the breast. Mettauer's most brilliant work was his method of operating for vesicovaginal fistula, and his successful employment of wire sutures made of lead, in which he antedated by a good many years even Sims, whose name is generally associated with this operation. So successful was Mettauer that he declared his belief that every case of this sort is curable by his method, and so far as his efforts are reported, Dr. Johnston is not aware that he ever failed in one. Mettauer's first reference to the operation of vesicovaginal fistula appeared in the *Boston Medical and Surgical Journal*, vol. XXII, page 154, twelve years before Sims' communication, and it clearly outlines the operation which ought always to be associated with his name. Mettauer was decidedly of the opinion that every case of vesicovaginal fistula could be cured, and his success justified the statement.

(*To be continued.*)

AMERICAN MEDICAL ASSOCIATION

PROCEEDINGS OF THE FIFTY-SIXTH ANNUAL SESSION HELD AT PORTLAND, OREGON, JULY 10-14, 1905.

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OFFICIAL MINUTES–HOUSE OF DELEGATES

First Meeting—Monday, July 10.

The House of Delegates convened in the Chamber of Commerce Building, Portland, Ore., and was called to order by the President, Dr. John H. Musser, of Philadelphia, at 11:10 a. m.

Dr. Cyrus L. Stevens, of Pennsylvania, presented the report of the Committee on Credentials, after which the President delivered the following address (see page 276).

Address of the President to the House of Delegates.

Gentlemen:—It gives me pleasure to welcome you in assemblage this day to assume the duties imposed on you by your fellow-members of the constituent bodies of this great organization. The demands on your time and patience you may find somewhat onerous. The sense of responsibility that attends and the satisfaction of fulfilling an imposed trust will sweeten your labors and allay your discomforts. The sincere sympathy and generous charity accorded me while conducting your deliberations last year will, I am sure, be mine this, and my extreme regret is that, in the absence of parliamentary skill, I can not show the master hand worthy of the occasion. We have, however, a common object, the welfare of the Association and, through it, our beloved profession, before which our mutual shortcomings pale.

During the year I have had the opportunity of contact with the various officials of the American Medical Association, whose tenure of office is more or less permanent, and who are, in a sense, the organization. Your President, in a measure, stands aloof from them in action and is more a representative of the profession than of the organization, if such distinction may be made. It is my duty, as well as my pleasure, to report to you, gentlemen of the House of Delegates, my impression of the work, which is to the effect that I care not where you seek or whither you turn no more high-toned, honorable men, with higher altruistic motives, exist than those who, while we go on our way, are laboring for the good of the organization they represent.

I would not, if I could, make any invidious distinction, but when I say our efficient Secretary-Editor almost sinks life itself and effaces all personality in the conduct of his onerous duties, I am only echoing what every organization secretary in allied bodies knows and every editor of allied journals keenly feels—a tribute to his sincerity and power. Likewise I might speak of your Board of Trustees, whose deliberations mean so much for us. Their responsibilities, increasing each year, are met by them with a courage and fidelity that brooks no idle thoughts. We are what we are because of their faithfulness to the trust imposed in them. We must have large cause to question the results of their deliberation and must weigh very carefully their recommendations before tossing them lightly on the fickle waves of an assembled body. So, too, may I speak of our "Organizer," who has gone among us and labored with us to the end only that we may, in whole or in part, become the exemplar of the beloved physician of old—the Luke of sacred story. Your permanent and, therefore, organic committees bring to us reports only as the result of mature deliberation. The emotional impulse—that influence which ofttimes tricks assemblies of men—should not carry us counter to their suggestions without calm deliberation. I am not doing violence to my appreciation of the efforts of the local committee, and I remind you that our present assemblage is counter to the advice of the committee on meeting place and transportation, which had reported otherwise after mature deliberation and in full recognition of our society's need. A corollary to this is, accept within your rights the reports of your committees and then hold them responsible if a wrong is done or a project fails.

Of the business of the year I have nothing to report. The Secretary, the Treasurer, and the Board of Trustees will lay before you the facts that you should know. From them you can infer the growth of the organization, the success of its endeavors, its benefits to the profession. You will realize at once the ability of the organization to take care of itself and to foster the best interests of the profession without the help of outside influences. You will not, after hearing these reports, be surprised to know that the power of the organization is *complimented by others than those who are its well-wishers.* The attempt of influences to turn our advantages to its own base uses will not surprise, but will truly grieve our fraternal spirit. If in thoughtless moments you may forget we are representing a profession, not a faction, or a motive ulterior to our cause, let us admonish one another in such spirit as to attain nobler ends.

We labor as an association under the organization of recent adoption. The results justify the trials and tribulations that attended this change. No mobile organization, growing to giant strength as the night passes, can be fitted to fixed rules of convention at once. There naturally must be misfits and friction. We must realize this and be patient while the mellowing influence of action and experience rubs down the inequalities. To us all comes a sense of unpreparedness to meet our great responsibilities, which behooves us to smother carping criticism and to bend sympathetic effort to altruistic ends.

The conduct of our deliberations is based on lines, now organic law, laid down by that master of organization, my predecessor in this chair, Dr. Frank Billings. The Association can not be too grateful for the unselfish manner in which he has dedicated his majestic powers to its cause. I have no further suggestions to make as to our procedure. At the proper time I shall name the various committees and ask of them prompt but mature deliberation of the problems referred to them, to the end that the House of Delegates may conduct its proceedings with such dispatch that its members *may attend the section work of the Association.*

The official relation of President and President-elect, a new experience for the Association, has been continued as in the previous year, with advantage, we believe, to the Association. President-elect McMurtry has taken charge of the session of this year, the program of which portends its scientific success.

I must recall to you and indorse the recommendation of ex-President Wyeth that the selection of the session place and the duties of arrangement for the session becomes a fixed part of our organization under the direct control of the House of Delegates and its representatives. The details of such arrangement I leave to you. I should like, too, to ask your specific attention, now that organization is growing to perfection, to further promotion of our scientific work. The Committee on Section Work might be instructed to look into the conduct of the section, note shortcomings and successes, so that we could bring to the highest level the weaker of our scientific units. I would ask, too, that you lend your counsel and support to your utmost to the cause of medical education, to the questions of reciprocity and allied measures that are the woof and warp of our whole existence. Let us not forget that we owe a duty to our nation, and that due support should be given its officials whose duties are cognate with us, the medical departments of the Army and of the Navy, and the Department of Public Health and Hygiene.

With these few remarks, permit me to join with you in felicitation over the elements that augur success in your deliberations and to wish for our Association a long career of activity and usefulness.

Committees.

The President then announced the following committees:

COMMITTEE ON CREDENTIALS.

Cyrus L. Stevens, Pennsylvania, Chairman.
R. C. Moore, Nebraska.
H. W. Dewey, Washington.
J. N. McCormack, Kentucky.
C. S. Sheldon, Wisconsin.

COMMITTEE ON REPORTS OF OFFICERS.

Frank Billings, Illinois, Chairman.
G. W. Guthrie, Pennsylvania.
C. D. Coleman, Georgia.
J. D. Bryant, New York.
C. J. Smith, Oregon.

COMMITTEE ON MEDICAL LEGISLATION AND POLITICAL ACTION.
(The Standing Committee, members *ex-officio.*)

W. B. Dorsett, Missouri, Chairman.
Walter L. Bierring, Iowa.
Geo. L. Richards, Mass.
L. C. Morris, Alabama.
W. J. Miller, Tenn.

REFERENCE COMMITTEE ON MEDICAL EDUCATION.
(*Ex-officio*, Members of Council.)

Geo. M. Kober, District of Columbia, Chairman.
J. N. McCormack, Kentucky.
Charles E. Woodruff, U. S.
W. A. Jayne, Colorado.
John C. Munro, Massachusetts.

REFERENCE COMMITTEE ON SECTIONS AND SECTION WORK.

Joseph McFarland, Pennsylvania, Chairman.
Edward F. Wells, Illinois.
J. D. Griffith, Missouri.
D. I. Wolfstein, Ohio.
John W. Foss, Arizona.

REFERENCE COMMITTEE ON RULES AND ORDER.

George Ben Johnston, Virginia, Chairman.
F. E. Daniel, Texas.
E. J. Smith, Oregon.
G. B. Black, New Mexico.
Melville Black, Colorado.

COMMITTEE ON HYGIENE AND PUBLIC HEALTH.

W. H. Sanders, Alabama, Chairman.
William S. Foster, Pennsylvania.
H. S. Cumming, California.
H. M. Workman, Minnesota.
Alexander Marcy, New Jersey.

REFERENCE COMMITTEE ON AMENDMENTS TO CONSTITUTION AND BY-LAWS.

A. R. Craig, Pennsylvania, Chairman.
W. N. Wishard, Indiana.
Frank Paschall, Texas.
William M. Harsha, Illinois.
J. Garland Sherrill, Kentucky.

REFERENCE COMMITTEE ON MISCELLANEOUS BUSINESS.

E. Eliot Harris, New York, Chairman.
C. S. Bacon, Illinois.
Phillip Mills Jones, California.
Edward E. Maxey, Idaho.
E. J. Williams, Mississippi.

Report of the Secretary.

REFERRED TO COMMITTEE. (See page 276.)

The next order was the report of the Secretary, copies of which were distributed, and, as there was no objection raised, the report was not read. It was referred to the Committee on Reports of Officers, and was as follows:

To the Members of the House of Delegates of the American Medical Association:

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The membership on the date of my last report, June, 1904, was 15,334. During the year there have been added 4,889, and 938 have been dropped: 162 on account of death, 176 not eligible, 36 for non-payment of dues, 535 resigned, and 29 were not found, leaving a net gain of 3,951. This makes the total membership on June 1, 1905, 19,285. (It is estimated that there are about 17,000 subscribers not members.) Of the 4,889 names added to our membership list, 2,380 were new members, and 2,509 were subscribers to The Journal, and finally were transferred to the membership list.

CONSOLIDATION OF THE OKLAHOMA STATE MEDICAL ASSOCIATION AND THE INDIAN TERRITORY MEDICAL ASSOCIATION.

A letter has been received from the president of the Oklahoma State Medical Association, in which he states that a committee has been appointed by the Indian Territory Medical Association looking to the union of the Indian Territory Medical Association with the Oklahoma State Medical Association should the two territories be admitted as one state. He also states that he has been asked to appoint a similar committee, and asks for the proper mode of procedure. In reply I have stated that the matter rests entirely with the territorial associations, and that if the two decided to unite, a report of such action should be presented to the House of Delegates of the American Medical Association, with a request for the recognition of the new organization.

PORTO RICO ASSOCIATION.

During the past year, correspondence has been carried on with a number of physicians practicing in Porto Rico regarding membership in the American Medical Association and looking toward the establishment of a constituent association on that island. It is probable that the next year will see the organization of such an association in Porto Rico, asking for recognition.

SECTION ON ELECTRO-THERAPEUTICS.

Under date of Oct. 6, 1904, a letter was received from the Secretary of the American Electro-Therapeutic Association, stating that "at the fourteenth annual convention of the American Electro-Therapeutic Association, held at St. Louis, Mo., Sept. 13 to 16, 1904, it was voted that the secretary be instructed to communicate to the officers of the American Medical Association a request that the said American Medical Association establish before the next convention a section on Electro-therapeutics."

SYSTEM OF REPORTING.

The year has been marked with a growth and development in organization machinery that is highly gratifying. Under an ideal system of organization, the county secretary should report promptly to the state secretary the names of newly-elected members, as well as the names of members who have died, removed or resigned, or who have been suspended or dropped. The state secretary, after duly entering it on his own records, should forward this data to the general secretary's office, which should be the center of information in regard to the profession and its members. There are two essentials for such a system, (1) a method of transmitting such data from county secretaries to state secretaries and from state secretaries to the general secretary. Such a system should be simple and accurate and should be capable of transmitting a maximum amount of information with a minimum amount of labor. The majority of the county and state secretaries do their work practically without compensation, in the leisure moments of active professional life, and their work must be systematized so as to reduce it to the smallest necessary amount. Such a system of reporting members and collecting data is gradually being developed. (2) The second essential is that information regarding members must be preserved in the most available and most easily corrected form. The constant changes going on in the profession make any printed lists inadvisable, as they soon become incorrect. A card index is the only elastic, easily corrected system. For some time we have been engaged in constructing such an index of members of constituent state associations. We now have indexed the membership of over one-half of the constituent state associations, and this will be completed as rapidly as possible.

COUNCILOR'S BULLETIN.

The councilors of the constituent associations are the mainspring of organization in each state. Each councilor should have all the assistance that can be given him in his work of organizing his district and of stimulating local societies. Feeling that the councilors have heretofore been given too little attention and aid by the general organization and that each councilor was left to work out his own problems without knowing anything of the successes or failures of his fellow workers in other states, it was proposed, as a remedy for these conditions, that there shall be established a councilors' bulletin, for the discussion of organization conditions, methods, and results, such a bulletin to circulate among the councilors, state secretaries, and, perhaps, county secretaries. A circular letter, outlining such a plan and asking for an expression of opinion as to its advisability, was sent out in May to all state councilors, numbering about 288. One hundred and eighteen answers were received. Of these, none was opposed to the plan, three were in doubt, and the rest heartily favored it. Many valuable suggestions were made. It seems advisable that such an organization bulletin should be issued, perhaps quarterly, for circulation among those specially interested in the work of organization, and in making county societies of more value to their members.

CARD INDEX.

It has long been recognized that a permanent biographical card index of American physicians, giving data in regard to preliminary education, medical education, previous locations, etc., would be of great value to the association and to the profession. Such an index will be of value in tracing a physician through various locations, making up matter for directories, etc., and in compiling statistics regarding the profession. This work has been begun and is now being carried on along two different lines, viz.: (1) The accumulation and indexing of biographical data in regard to members of the profession now engaged in active practice. (2) The accumulation of similar data in regard to graduates of the current year and of recent licentiates of state boards of health. This has been carried on through the assistance and with the co-operation of medical colleges and secretaries of state licensing boards. The amount of information on hand is considerable and is steadily increasing.

Respectfully submitted,

GEORGE H. SIMMONS. *General Secretary.*

Final Report of the Committee on Rush Monument.

ACCEPTED AND COMMITTEE DISCHARGED.

The President called for the report of the Committee on Rush Monument Fund, Dr. James C. Wilson, Chairman. In the absence of the chairman, copies of the printed report were distributed.

On motion of Dr. A. R. Craig, the report was accepted, the committee discharged and thanked for their efficient work. The report was as follows:

To the House of Delegates, American Medical Association:

Gentlemen:—In 1900 the surviving members of your committee on the Rush Monument consisted of two: Dr. Henry D. Holton and the chairman. At their request the President of the Association, at the 1900 Atlantic City session, added to the committee Dr. Frank Billings, Chicago; Dr. L. Duncan Bulkley, New York, and Dr. Wm. L. Rodman, Philadelphia.

This enlarged committee considered with great care various methods of increasing the fund, which then, with interest, amounted to about $15,000. Among these methods three seemed worthy of special attention: First, an appeal to the Trustees of the Association for a sufficient additional sum to meet the cost of an appropriate monument. An informal discussion of this method with a number of members of the Board of Trustees satisfied the committee that formal action of this kind was not advisable. Second, a general appeal to the members of the Association. This plan likewise, after very careful consideration, was abandoned. Repeated appeals had been made from time to time with the evidences of a diminishing disposition on the part of the profession to contribute further to the fund. Third, an attempt to obtain additional funds in the form of an appropriation by congress for the purpose was also seriously considered. The last scheme was, however, abandoned, since it was the opinion of the members of the committee that the monument to Benjamin Rush was of the nature of a gift of the profession to the nation, and that to ask the national representatives in congress to appropriate money for the purpose would be contrary to the original intention. All three of these plans, together with others less practical that had been from time to time suggested, were in turn given up.

Finally, at the suggestion of Dr. Holton, the senior member of the committee, it was determined to erect such a monument as could be obtained with the funds already on hand.

After careful investigation the contract for the monument was given to the Henry-Bonnard Bronze Co. of New York, at whose recommendation the commission for the statue was awarded to Mr. R. Hinton Perry, a young sculptor of prominence, and that for the pedestal to Mr. Louis R. Metcalfe, an architect of distinction. The thanks of the committee are due to these gentlemen for the efficient and satisfactory manner in which they discharged the work allotted to them, and to Mr. Eugene F. Aucaigne, the manager of the Henry-Bonnard Bronze Co., for practical suggestions and advice.

Early in the history of the committee, through the efforts of the late Dr. Albert H. Gihon, the then secretary of the navy had designated a site for the statue on the grounds of the Naval Museum of Hygiene and Medical School, at 23d and E streets, N. W., Washington, D. C. The exact location within the enclosure was fixed early in 1904 by a special commission, consisting of Surgeon-General P. M. Rixey, U. S. N., Dr. J. C. Wilson, Mr. Louis R. Metcalfe, Mr. Frederick B. McGuire, appointed by W. H. Moody, Secretary of the Navy. There the monument now stands in a conspicuous position on a beautiful lawn in front of the Naval Museum, and at a considerable elevation above the level of the public highway.

The bronze statue is a little more than life size, and has been favorably spoken of by many who are capable of judging it, as a work of art. The pedestal, which stands on an octagonal base of granite rising from the level of the ground by three steps, is of beautiful design, and bears on its four panels respectively the following legends: In front, "Benjamin Rush. Physician and Philanthropist, 1745, 1813." On the left, "Signer of the Declaration of Independence." On the right, "Studium sine calamo somnium," and on the rear, "The first American Alienist." These legends are in raised bronze letters, dowelled into the stone. The total height of the monument is about seventeen feet. On the base in front, cut into the stone, are the words "Erected by the American Medical Association, 1904."

The unveiling and dedication of the monument took place on Saturday, June 11, 1904, at 5 o'clock. Dr. J. H. Musser, the President of the American Medical Association, made a brief address; Dr. J. C. Wilson, the chairman of the Committee on Rush Monument, delivered a eulogy on Rush, and the President of the United States accepted the monument as a gift from the medical profession to the nation in a graceful and interesting address. Seats were arranged to accommodate about 500 people. These were all occupied, and many other guests of the Association were grouped on the lawn. There was music by the Marine Band.

The beauty of the weather and the presence of many ladies, together with numbers of medical officers of the Army and Navy in uniform, served to make the occasion a notable one. Invitations were extended to the members of the American Medical Association at Atlantic City and to the presidents of all the state medical societies, and special invitations were sent to the governing bodies of the following organizations, in the early history of which the name of Benjamin Rush is prominent, namely, Princeton University, the University of Pennsylvania, the American Philosophical Society, the College of Physicians of Philadelphia and the Pennsylvania Hospital. Your chairman of the Committee on Rush Monument recently examined the monument and found it well cared for and surrounded by beds of recently planted flowers.

The committee can not conclude this report without an expression of the sentiments of gratitude which they entertain toward the late Dr. Albert H. Gihon, by whose initiative and untiring energy the erection of this monument to the most distinguished American physician of his time was rendered possible. The thanks of the committee are due and are hereby tendered to the President of the United States, whose presence and address at the unveiling of the monument served to make it a memorable occasion; to General Rixey for many acts of courtesy; to the officers of the Naval Museum for valuable assistance on that occasion, and to the government for the services of the Marine Band. The chairman, in concluding this report, desires to express his warm thanks to his associates on the committee, and in particular his thanks to Dr. Henry D. Holton, who willingly undertook the greater part of the arduous detail of the work. Finally, the Committee on Rush Monument of the American Medical Association hereby respectfully asks to be discharged.

J. C. Wilson,
Chairman.

Philadelphia, May 31, 1905.

Report of Committee on Walter Reed Monument.

The report of the Committee on Walter Reed Monument, Dr. W. W. Keen, Chairman, was called for. In the absence of Dr. Keen, copies of the report were distributed, and, on motion of Dr. Billings, the report was accepted and the committee was continued. The report was as follows:

Philadelphia, June 17, 1905.

To the House of Delegates, American Medical Association:

Gentlemen:—The Committee on the Walter Reed Memorial Fund begs leave to make the following report:

The sum total in the hands of Mr. C. J.. Bell of the American Security and Trust Co., Washington, D. C., on June 14, 1905, was $16,194.75. The total amount of subscriptions at that date were $18,065.75, leaving the sum of $1,871 still unpaid. Nearly the entire balance unpaid ($1,871) will be due July 1, 1905, on pledges given at the last session of the Association. There is little doubt that practically all of these pledges will be paid

As nearly as can be made out by the treasurer, Mr. Bell, the members of the American Medical Association have contributed almost $10,000 of the $18,000 subscribed. This is most creditable to the public spirit of the members of the Association. The committee would beg leave, therefore, to report progress as indicated and ask to be continued for at least another year.

The chairman cheerfully acknowledges the admirable work done by the members of the committee. W. W. Keen.

Council on Medical Education. Report Called for and Deferred.—*The report of the Committee on Medical Education,* Dr. Arthur D. Bevan, Chairman, was called for and deferred until a subsequent session (pages 269, 278).

Committee on Senn Medal. Report Called for and Deferred.—The report of the Committee on Senn Medal was called for, Dr. James E. Moore, Chairman. Dr. McRae, of Georgia, a member of this committee, asked for further time, which was granted (pages 269, 278).

Amendments to By-Laws.

REFERRED TO REFERENCE COMMITTEE. (See pages 278, 283.)

[Note.—New Amendments were introduced, later, to lie over a year. See below, this page, and also pages 274, 275, 280.]

The *following* amendments to the by-laws were referred to the Reference Committee on Amendments to the Constitution and By-laws:

Chapter 7, Section 1 (page 7 as revised): Nominations for office, except that of the Treasurer, shall be made orally, but no nominating speech shall exceed two minutes in length. Any nominee receiving a majority of the votes cast shall be declared elected. The Treasurer shall be nominated by the Board of Trustees.

Section 1, Chapter 4: Striking out Section 1 and inserting in lieu thereof the following: "*Time of Election.*—The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the session."

Section 3, Chapter [illegible]: Striking out said Section and inserting in lieu thereof the following: "Nominations for President shall be by ballot. All other officers shall be nominated by a committee of seven, representing the various geographical divisions of the country as nearly as may be."

Chapter 8, Section 1: That the name of the Section on Pharmacology be changed to the Section on Pharmacology and Therapeutics.

Report of Committee on National Incorporation.

READ IN PART AND DEFERRED. (See pages 269, 270, 277.)

The President called for the report of the Committee on National Incorporation, and in the absence of Dr. Joseph D. Bryant, Chairman, and on motion of Dr. Harris, New York, the Secretary read the salient points of the report.

On motion of Dr. Foster, Pennsylvania, further consideration of the report was postponed until the time indicated in the official program, so as to give the chairman of the committee an opportunity to be present and to take part in the consideration of the report.

New Amendments to By-Laws.

Under the head of "New Business," Dr. Edward F. Wells, *Illinois,* offered the following amendments to the by-laws:

[Note: In accordance with the By-laws, these proposed amendments will lie over till a subsequent session. For action on amendments previously proposed, see above and below, pp. 278, 283, 285.]

Book IV.—Chapter II.—Section 8.—Striking out said section and inserting in lieu thereof the following: "*Sec. 8. Section Lectureships.*—Each section may, at the discretion of its officers, establish an annual lectureship, as follows: The lecture shall be on some subject connected with that of the section before which it is given, shall embrace the results of historical research, original observation and experimental investigation, and shall not occupy more than thirty minutes in its delivery. The lecturer shall be appointed by the section officers, the selection to be made either by competition, aspirants to submit abstracts which show clearly the facts and conclusions to be presented in the lecture, or by invitation, extended to some person who has risen to pre-eminence in the profession of medicine, who, if a foreigner, may be nominated to honorary membership in the American Medical Association."

Book IV.—Chapter II.—Section 2.—Striking out the last (third) sentence of said section and inserting in lieu thereof the following: "Each section shall also elect biennially one representative, and one alternate, to the House of Delegates of the American Medical Association to serve two years.' [*Referred to the Reference Committee* on Amendments to the Constitution and By-Laws. See page 279.]

Dr. Billings, Illinois, moved that the Chairman of the Committee of Arrangements be requested to secure a better room in which to hold the meetings of the House of Delegates. Seconded and carried.

On motion of Dr. Baldwin, Illinois, the House of Delegates then adjourned until 3 p. m.

Second Meeting—Monday, July 10.

The House of Delegates reassembled at 3 p. m. and was called to order by the President.

The Secretary read the minutes of the previous meeting, and they were approved.

Dr. Mackenzie, *Chairman of the Committee of Arrangements, stated that provision had been made for holding future meetings of the House of Delegates in the Atkinson School Building, and, on motion of Dr. Baldwin, Illinois,* the change was accepted.

Committee on Medical Legislation.

REFERRED TO COMMITTEE. (See pages 259, 277.)

The President called for the report of the Committee on Medical Legislation.

The Secretary stated that he had received a letter from Dr. Reed, Chairman of the Committee, stating that he could not be present, and, on *motion,* the report was referred to the Reference Committee on Medical Legislation and Political Action.

Council on Medical Education Report Postponed.—*The report* of the Council on Medical Education was called for, and, in the absence of the chairman of that committee, the report was passed. (See pages 267, 278.)

Report of Committee on Scientific Research.

The President called for the report of the Committee on Scientific Research, Dr. Alfred Stengel, Chairman. Dr. Stengel stated that the committee had recommended to the Board of Trustees the giving of grants for scientific research to those who have undertaken to prepare scientific papers on subjects requiring considerable investigation, and that such papers have been presented to the Section on *Pathology* and Physiology—Drs. Leo Loeb, Philadelphia; R. M. Pearce, Albany, and Gustav Ruediger, Chicago. The committee had not yet received a definite acceptance of its suggestion from the Board of Trustees. The committee expressed the hope that the grants will receive the approbation of the Board of Trustees. The committee reported that, in its opinion, it is desirable that the giving of these small grants, which amount to but one hundred dollars per person, should be continued, for the reason that it gives the committee encouragement in carrying on scientific work of a high order.

Dr. Billings, Illinois, moved that the report of the committee be adopted, and that the House of Delegates recommend that the Board of Trustees follow out the suggestion made by the committee. *Seconded and carried.*

Incorporation Committee Report Postponed.—The report of the Committee on National Incorporation was called for and passed temporarily, in the absence of the chairman. (See pages 258, 269, 270, 277.)

Committee on Reciprocity Report Postponed.—The President asked whether the report of the Committee on Reciprocity was ready.

Dr. Rodman, Chairman, stated that his committee would have a meeting this evening and expressed the hope that the committee would be able to report to-morrow. Further time was granted. (See page 274.)

Report of Committee on Medical Legislation.

ACCEPTED AND REFERRED TO BOARD OF TRUSTEES. (Page 277.)

Dr. Billings, Illinois, asked whether it was not possible to have the report of the Committee on Medical Legislation read at this time, as a member of that committee, Dr. Rodman, was present.

The President said he saw no reason why the report should not be read now.

On motion by Dr. Wells, Illinois, the report was read by the Secretary as follows:

To the House of Delegates:

In accordance with the Constitution and By-laws, your Committee on Legislation has the honor to submit its report covering the interval since the session of the Association in June, 1904.

GENERAL WORK OF THE COMMITTEE.

The report of this committee last year set forth the extent of the auxiliary organization that it had effected for the purpose of making more effective such agitation as might be necessary either for or against pending legislation touching questions of interest to the medical profession. This organization, theoretically, embraces the establishment of an official correspondent in each county in the United States, the object being to have every such correspondent in touch with the local medical organization wherever such an organization exists, or with the profession wherever it is yet unorganized. The profession has been very responsive to this movement and as a result the office of your committee is now in possession of a directory embracing about 2,800 local correspondents, who comprise the National Auxiliary Legislative Committee. This extensive organization has been most effective in bringing the influence of the medical profession and, through the medical profession, the influence of the respective communities to bear on such questions as legitimately concern not only the medical profession, but the public in general. This is accomplished by appealing to this large committee by formal referendum. During the past year it has been necessary to issue only two general referenda. It has, however, been found expedient to issue a number of special referenda calculated to reach members of committees in both the House and the Senate. The committee is in possession of abundant evidence that the influence thus exerted commands the respectful consideration of the members of Congress in both houses.

A POLITICAL DIRECTORY.

A number of members of the National Auxiliary Legislative Committee have suggested to the central committee that it would be a good idea in special cases for the central committee to be in direct communication with the dominant local political influences in the different localities.

Acting on this suggestion, your committee undertook to secure and it is very glad to be able to report that it has secured a list of the local political leaders of every organized and recognized-political party in the United States. The list already embraces the names of several political managers in each of about 900 counties, the entire list aggregating in excess of 11,000 names. Through this list the central committee is in position to bring questions of pending legislation to the serious and thoughtful consideration of the men who, in their respective localities, exercise a preponderating influence in determining political action. The few instances in which it has been necessary to have recourse to this list has shown that it is remarkably effective. It should be made clear, however, that in carrying out such a plan of action, care is taken never to ignore but rather to strengthen the local representatives of our strictly professional organization. Thus, in addressing the local political leaders in a particular county, it is the habit of your committee to lay the pending question frankly before them and request that they consult the member of the National Auxiliary Committee residing in their county. A letter of advice is likewise sent to such local auxiliary committeeman requesting him, in turn, to consult with the local political factors. The political list is, furthermore, so arranged that the dominant politics of each county and of each congressional district is indicated, as well as the political affiliations of each member whose name appears on the list. It thus happens that we are able to move with a certain degree of accuracy in invoking political influence in behalf of such measures as are taken up by your committee. This list will be kept alive by asking for revisions from time to time, especially after each general election, and will, we are sure, prove to be an effective medium of action in the agitations which are pending in the immediate future.

THE NATIONAL LEGISLATIVE COUNCIL.

The National Legislative Council is to be recognized as one of the most important elements in the mechanism for national agitation. It is before this body that all questions of proposed or pending national legislation touching questions of interest to the medical profession are submitted for careful consideration, and it is only after affirmative action by this representative body, consisting of one member from each state and territorial medical association, that your committee assumes to foster any given measure. It is thus that the championship of a measure by your committee is accepted by the Congress as the championship by the American Medical Association, which, being the representative organization of the medical profession of the United States, makes its voice, in effect, the voice of the entire profession. The National Legislative Council was not, however, called in session during the last year. The reason of this omission was found in the fact that there were no questions of a medical character pending before the Congress which had not already been acted on by the National Legislative Council. Your committee went to the extent of inquiring whether or not there were any questions to be presented from the different states; but, as none were offering, it was not thought worth while to subject the different state associations to the expense of a meeting. With the matters, however, which will shortly be crystalized, representing, as they do, questions of very great concern to the profession and to the public, it will be necessary for the National Legislative Council to meet in December of the present year, or as soon thereafter as these various propositions can be formulated for submission to its consideration.

MEASURES BEFORE THE LAST SESSION OF THE CONGRESS.

The last session of the Fifty-eighth Congress began early in December, 1904, and terminated March 3, 1905. It was, therefore, a short session, the chief business of which was to provide for the necessary expenses of the government. As these questions are of a broad, comprehensive and intricate character and as their consideration is of primary importance, they practically monopolize the time of all short sessions. The last session was no exception to the rule. It was, therefore, an inauspicious time for the presentation or consideration of any measures not vital to the operation of the government. In spite of this fact, however, three measures of importance to the medical profession—measures which had received the indorsement of the National Legislative Council, the passage of which was advocated through personal and formal written representations by your committee, were taken under consideration.

One of these, namely, that for the establishment of an Army Medical Hospital in Washington, was passed; the second measure, namely, the Pure Food and Drug Bill, passed both houses of the Congress, but failed in conference. The third measure, namely, that of the Army Medical Reorganization Bill, passed the Senate, was reported favorably after protracted hearings attended by your committee, by the House Committee on Military Affairs, and would doubtless have passed the House without discussion if it had not been arbitrarily excluded from the calendar by Speaker Cannon. In view of the history of legislation—particularly legislation touching medical and public health interests by the Congress—your committee feels that the progress realized during the last year, and especially during the last short session of the Congress, is distinctly encouraging.

THE STATUS OF THE MEDICAL PROFESSION IN THE PUBLIC SERVICES.

The trend of all activities by the legislative machinery of the *American Medical Association* is in the direction of the betterment of the status of the medical profession as represented in the various branches of the public services. This status is determined either directly by laws enacted by the Congress or by regulations adopted by the executive in pursuance of such laws. It is, therefore, with the law-making body with which the medical profession has to deal in correcting whatever may be unjust or what, from its viewpoint, it may consider against public policy. This is a broad principle, touching not only the medical, but other professions. In the instance of the medical profession it is exemplified at present particularly in the Army, the Navy, the Public Health and Marine-Hospital services and in the Isthmian Sanitary Service. In each of these services the status and duties of the medical officers are prescribed by regulation. These regulations once enacted and service under them having been accepted, all further change of status must come either from the initiative of a superior executive or through the intervention of the law-making branch of the government. That the medical profession in general may understand more explicitly than it now comprehends the exact meaning of the foregoing statement, attention is called to the following executive order:

EXECUTIVE ORDER.

All officers and employes of the United States of every description serving in or under any of the Executive Departments and whether so serving in or out of Washington, are hereby forbidden, either directly or indirectly, individually or through associations, to solicit an increase of pay or to influence or attempt to influence in their own interest any other legislation whatever, either before Congress or its committees, or in any way save through the heads of departments in or under which they serve, on penalty of dismissal from the government service.

White House, Jan. 31, 1902. THEODORE ROOSEVELT.

DUTIES OF THE PROFESSION IN PRIVATE LIFE TO THEIR PUBLIC CONFRÈRES.

While the position thus assumed is unquestionably justifiable from a governmental or disciplinary standpoint, there remains, however, another and very serious side to the question. It must be remembered that the professions in the public services are, primarily and essentially, the representatives of the corresponding professions in private life; that the status of the professions in the public services, relative to other professions, persons and classes, will and must be recognized as a criterion of the relative status of the corresponding professions in private life; and that, consequently, the professions in private life, jealous alike of their positions and their prerogatives, must see to it that neither are compromised through precedents established either for or by their public representatives. Recognizing, as has been shown, that the hands of their public confrères are tied by executive restriction, it becomes the duty of the respective professions, in their organized capacity, to take the initiative in correcting any influences which, in a reflex way, may act detrimentally on their own welfare, whether in public or private capacity. When such action can be coupled with unquestionable considerations for the public good, the obligation becomes doubly imperative. But, aside from the altruistic motive, and as a complete justification for intervention, it is to be remembered that this is an age characterized by the rapid evolution of social groups and classes; that these groups and classes are already jostling each other for place; and that, consequently, that group or class, or, more specifically, that profession, must be vigilant and courageous that would guard its prerogatives and conserve its status in a democracy presumably founded on the principle of equality.

Such intervention ought to be undertaken only after careful consideration of all the interests involved. Care should be taken to avoid the tendency to consider the viewpoint of a given profession as the only viewpoint in the case. Representations should be made, whether to the legislative or the executive departments, always with profound respect for the intention of those in authority to conserve all the interests placed in their hands, but with the feeling, the assurance, that the viewpoint of the legislator or of the executive may not be the only viewpoint in the case. Thus, to illustrate, it would seem that a given profession would be justified in making respectful representations to the heads of executive departments when its representatives in the service are placed in positions of responsibility, without authority to control or determine results; or, when final judgment is passed on the technical knowledge it represents by those who are ignorant of the subject; or when it is ignored in the composition of commissions of mixed membership, dealing in a large way with the practical application of the art and sciences for which it stands; or when it is excluded from consultative bodies on which its skill and position would naturally entitle it to representation; or when its technical qualifications are permitted to act as a bar sinister to its preferment in any capacity to which its general attainments entitle it to consideration.

THE STATUS OF THE SANITARY DEPARTMENT IN THE ISTHMIAN CANAL ZONE.

It was in pursuance of the foregoing principle that your committee, acting under general instructions, made earnest representations to the President of the United States to appoint a medical representative on the Isthmian Canal Commission when that body was first organized. The circumstances attending this application and its result were laid before you in our last annual report. Since that time, namely, in the month of February, 1905, a convenient opportunity occurred for your chairman, while visiting the Isthmus of Panama on other business, to observe the results of the organization that had been effected. These observations were embodied in a paper, prepared by your chairman in his official capacity for submission through the official JOURNAL of the Association for the information of the general membership of that body. A copy of this information in the form of a special report was submitted by request and as a matter of courtesy to the Secretary of War. The fact that such information existed, the fact that the government was in the possession of information of such special importance to the medical profession, and the fact that that information had been gathered and communicated to the government as the official act of an officer of this Association, responsible to this Association and not to the government, were deemed by your chairman to be facts to a knowledge of which the Association was entitled. He accordingly, as the only means of disseminating such knowledge, at once and without hesitation, submitted a copy of the report for publication in the official JOURNAL of the Association. The commission replied by a general denial, and the President publicly criticised your chairman for an alleged breach of propriety in publishing the report. Your chairman, while not yielding his right to control in the interest of this Association information that, in the first instance, was exclusively the property of the Association, but recognizing that such right might better be waived out of consideration for the large interest represented by conformity to the customs and usages of the government, promptly apologized for the publication. It is gratifying to record that the incident thus amicably closed was shortly followed by the forced resignation of the commission, as urged in the report, and that other conditions complained of in the report have likewise been remedied as rapidly as time and circumstances have permitted.

That the resulting status of the Sanitary Department under the commission as reorganized is not, however, autonomous is indicated by the fact that one member of the Executive Committee is designated as "Commissioner in Charge of Government and Sanitation." This arrangement seems to be essential in view of the very wise and business-like plan of the President and of the Secretary of War to concentrate the management of the entire Isthmian enterprise to the hands of three distinctly administrative officers, namely, one to attend to business in the United States, one to govern the zone, and the third to dig the canal. It is to be accepted, however, as a subject for congratulation that the sanitary department, although still technically subordinate, in reality and in contrast with the order of things under the old commission, enjoys practically absolute freedom of action. This is indicated not only by the letter of Mr. Taft, Secretary of War, to Col. Gorgas, Chief of the Sanitary Department, published in a recent issue of THE JOURNAL, but by an official dispatch of Gov. Magoon, "Commissioner in Charge of Government and Sanitation," to Col. Gorgas, as follows:

> I know I voice the earnest conviction of the President and the Secretary of War in stating that yellow fever must be eradicated and proper sanitation accomplished, if it is within the power of human endeavor. Money, means and men, to the extent of the commission's ability to supply them, are at your disposal. We rely on you to ascertain and determine what is required. By "We" I mean the President, the Secretary of War, the Commission and the people of the United States.

It would thus seem that, through the wise initiative of the President and of the Secretary of War, carried into effect by Governor Magoon, the Sanitary Department on the Isthmus is to be given an opportunity to demonstrate its usefulness, is to be given credit for its achievements; from which it follows logically that it is to be justly held responsible for its failures.

PENDING LEGISLATION.

A number of measures of interest to the medical profession will come before the next Congress. The pure food and drug bill will again be placed on the calendar. This measure during the last session incurred the violent opposition of the whisky trust, embracing more particularly rectifiers and compounders of spirits, by the patent medicine trust, which made its boast that it represented $30,000,000 of capital, and that by that means it was able to control the United States Senate, and by the Retail Grocers' Association, the members of which imagine that they reap large profits by selling sophisticated articles of food. These forces will again be to the front, and it will require the active labor of every friend of the measure to thwart their influence.

The Medical Reorganization Bill will also be reintroduced. This measure, like the preceding one, has the unqualified endorsement of the administration. Important and influential representations have been made to the members of the National Legislative Council touching certain provisions of this measure which may make it necessary for the council to take the bill under further consideration. But as these criticisms belong only to a few subordinate features of the proposed legislation, the measure will undoubtedly again call for and receive the support of the medical profession.

Measures are expected to be introduced in behalf of a naval hospital and certain recommendations touching the modification of the status of the medical department of the Navy. In addition to this there will be some more legislation coming from the Bureau of Public Health and Marine-Hospital Service.

It has been suggested that postal regulations governing the transmission through the mails of objectionable medical literature, or of alleged medical matter, ought to be enacted. These matters in due season will be taken up by the heads of the legislative departments of the government at Washington, and when properly formulated will be brought before the National Legislative Council. In this connection, however, your committee begs leave to emphasize the fact that it is its policy to champion only a few bills but good and necessary ones rather than to divide its energies in promoting a number of measures some of which may be of questionable benefit.

MEDICAL MEN IN LEGISLATIVE BODIES.

Your committee has felt itself embarrassed from time to time by the fact that it has had comparatively few representatives of its profession in the Congress. This was sufficiently exemplified in the Fifty-eighth Congress, in which there were but two medical men in the Senate. One member of the House at one time had been a student of medicine. On the other hand, more than half of both assemblies are made up of representatives of the legal profession. In this connection the committee urges that in the legislative field the duty of the profession to themselves and to the public is very distinct. To begin with, each profession owes it to itself to be adequately represented in all legislative bodies, state and national. No profession can complain if it is the victim of inimical legislation, passed during absence from these posts of duty. On the other hand, the profession owe to themselves and to the people certain self-denials in the direction of legislative work. Thus, speaking now more particularly for the medical profession, laws relating to its status and efficiency in the public services, laws regulating the study and practice of medicine, laws relating to the public health, the protection of streams from pollution, the protection of interstate commerce from disease-producing agencies, quarantine, the prevention and management of epidemics, the manufacture of drugs, the purity of food and water supplies, need the attention of the medical profesion in legislative bodies.

EXPENSE OF THE COMMITTEE.

The expense of the Committee on Legislation varies with the amount of work it has to do. Thus repeated appearances of the committee before the various committees of the Congress such as are liable to be necessary during the next session necessitate larger appropriations than were required during the last session. The postage account is a relatively large item in the expenditures of the committee. This, also, varies more especially according to the number and character of referenda that require to be issued. The current correspondence of the chairman's office is heavy and requires the constant service of the clerk of the committee. Including referenda, reprints and letters, over 17,000 pieces of mail have been sent out by your committee since the date of our last report. This is less than usual. The large list of political correspondents and the large amount of work to be done during the coming session of the Congress will greatly increase the expense for postage. When several referenda have to be issued in comparatively quick succession additional clerical help is required. It has become necessary to provide a special room for the clerk of the committee. In this connection the committee begs leave to express its appreciation of the hearty co-operation extended to it by the Board of Trustees. The appropriations and disbursements for and by the committee will appear in the report of the Treasurer.

THE BUREAU OF MEDICAL LEGISLATION.

In view of the work done, the expense incurred and the responsibilities met by the Committee on Legislation, and in view of the fact that these features will increase rather than diminish, the suggestion is urged that other facilities ought to be furnished for carrying on the work.

It can readily be seen, for instance, that to keep these lists alive and to utilize them for promoting or defeating proposed legislation, as the interests of the public and the profession may demand, and to carry on the correspondence necessary to accomplish these ends, to say nothing of one or more trips to Washington during each session of the Congress, requires more time and labor than can reasonably be expected either of the Committee on Medical Legislation or of any man who may accept the chairmanship of that committee.

In view of these facts it is proposed to establish a Bureau of Medical Legislation, to be located in the Association building, Chicago. It is intended that this bureau shall be in the immediate charge of the Secretary of the Association, who in this matter will act under the supervisory direction of the Committee on Medical Legislation. Some person familiar with the work would have to be employed by the Trustees to act as assistant secretary in charge of the bureau.

Among other arguments in favor of such a step are the following: 1, It would place the legislative work of the Association on a business basis; 2, it would enable the assistant secretary in charge of the bureau to have the efficient co-operation of THE JOURNAL office; 3, it would expedite the printing for the committee which is now done by the Association Press; 4, it would have the advantage of the mailing department; 5, it would be in close touch with THE JOURNAL, through which it is often desirable to promulgate information without a day's delay.

Respectfully submitted,
WILLIAM L. RODMAN,
WILLIAM H. WELCH,
CHARLES A. L. REED, Chairman.

Dr. Wells, Illinois, moved that the report be accepted; that that portion requiring an expenditure of money be referred to the Board of Trustees, and that the committee be thanked for its work and be continued. Seconded.

Dr. Billings, Illinois, asked if Dr. Wells' motion meant the adoption of the report, with the suggestions of establishment of a bureau.

Dr. Wells replied that his motion meant the whole report.

The President stated that this report should go to the Reference Committee on Medical Legislation and Political Action, to be reported later by that committee to the House of Delegates, when the motion of Dr. Wells could be taken up.

Dr. Bacon, Illinois, asked if it was not possible for the House of Delegates to act on the report now.

The President replied that, in accordance with the rules, the report should go to the Reference Committee on Medical Legislation and Political Action, and then that committee would report back to the House of Delegates, and he so ruled.

Dr. Wells, Illinois, said he would move, if it was in order, that the report be referred to the Committee on Medical Legislation and Political Action for rapid action while the subject was fresh in the minds of the delegates.

The President decided that this motion was unnecessary; that the report would be referred to the Reference Committee on Medical Legislation and Political Action, with the request that the committee act as rapidly as possible. (See page 277.)

Report of Committee on International Medical Congress.

The Secretary read the report of the Committee on International Medical Congress, Dr. John H. Musser, Chairman, as follows:

Pursuant with your instructions, and at the request of the Committee of Arrangements of Fifteenth International Medical Congress, your President of the House of Delegates appointed a committee, whose names are appended, as members of the American National Committee:

Dudley P. Allen.
C. S. Bull.
E. C. Burnett.
E. G. Brackett.
H. E. Bell.
Frank Billings.
Herman M. Biggs.
Herbert L. Borell.
T. J. W. Burgess.
Wm. T. Corlett
William T. Councilman.
Wm. H. Carmalt.
Richard C. Cabot.
Charles H. Dana.
N. S. Davis, Jr.
E. C. Dudley.
Simon Flexner.
Chas. H. Frazier.
R. H. Fitz.
W. E. Fischel.
C. M. Green.
Chas. Lyman Greene.
Ramon Guiteras.
H. A. Hare.
L. Hektoen.
W. H. Howell.
Edward Jackson.
E. G. Janeway.
A. Jacobi.
C. G. Jennings.
George B. Johnson.
W. W. Keen.
Howard A. Kelly.
Chas. Kollock.
L. S. McMurtry.
James H. McBride.
A. T. McCormack.
F. A. J. Mackenzie.
John Herr Musser.
J. B. Murphy.
R. Matas.
Chas. S. Minot.
Robt. M. O'Reilly.
J. B. Roberts.
W. L. Rodman.
M. H. Richardson.
C. C. Rice.
Chas. A. L. Reed.
Presley M. Rixey.
H. M. Sherman.
Frederick C. Shattuck.
George H. Simmons.
Wm. G. Spiller.
Chas. G. Stockton.
Geo. Sternberg.
E. L. Trudeau.
Victor Vaughan.
John A. Witherspoon.
J. Collins Warren.
J. C. Webster.
Wm. H. Welch.
John A. Wyeth.
Horatio C. Wood.
Walter Wyman.

At a meeting held in St. Louis, September, 1904, the undersigned was elected Chairman, and Dr. Ramon Guiteras of New York, Secretary. The Chairman was empowered to appoint an Executive Committee of five, namely, Keen, Pennsylvania; Osler, Maryland; Shattuck, Massachusetts; Jacobi, New York, and Billings, Illinois.

The committee has been in correspondence with the committee of the congress, and has urged from time to time men selected by the parent committee to take part in the congress. The committee corresponded with the constituent organizations of the Congress of Physicians and Surgeons, and, as has been customary, seven of these societies have contributed $25 toward the expense of the committee. They have also appointed delegates to the congress.

The President-elect, Dr. McMurtry, will report the names of the delegates from this Association to the congress at its meeting.

The committee in session at St. Louis suggested men to prepare papers at the invitation of the Lisbon committee. They were forwarded to this committee. The official bulletins have announced their names from time to time.

We have at present a few very attractive papers, which cover the subjects for special discussion at the congress. These are: "Portable Ration on the March," by Dr. L. A. Seaman of New York; "The Scientific Proofs at Present of the Parasitic Nature of Neoplasms, Especially Cancer," by Dr. Harvey Gaylord of Buffalo; "The Choice of Anesthesia in the Extraction of Teeth," by Dr. J. H. Hasbrook of New York; "Septic Peritoneal Infections, Classification and Treatment," by Dr. J. B. Murphy of Chicago; "Penal Reform," by Dr. A. M. MacDonald of New York; "The Etiology and Prophylaxis of Yellow Fever," by Colonel Gorgas of the Canal Zone, Panama, and "The Status of the Hospital Ship in War," by Medical Director J. C. Wise.

A number of men are arranging excursion parties to go to the congress. Among these are Dr. Fassett of St. Joseph and Dr. Whitmore of New York. Any one writing to the secretary regarding transportation will receive a card referring him to Thomas Cook & Son.

The secretary writes that most of the steps have now been taken toward obtaining representation from this country before the congress. It now remains to send repeated communications to the journals of this country, giving them all the news, and requesting that scientific communications be referred to the secretary of the committee. Therefore, from the first of July the principal work will be the rounding up of the representatives and the spreading of the propaganda for the congress.

The committee recommends that the Trustees be granted power to contribute $100 to the committee, and that the House of Delegates consider whether in conjunction with other organizations the congress be invited to meet in this country in 1909. All of which is respectfully submitted.

J. H. MUSSER, *Chairman.*

Dr. Billings, Illinois, moved that the report of President Musser be accepted: that the House of Delegates recommend that the Board of Trustees appropriate one hundred dollars for the expenses of the American committee. Seconded and carried.

TO INVITE INTERNATIONAL MEDICAL CONGRESS FOR 1909.

In the same connection, Dr. Billings moved that the committee be requested by the House of Delegates, in conjunction with other medical organizations, to invite the congress to meet in America in 1909. Seconded by Dr. Wells and carried.

Missouri Resolutions on Secret Nostrums.

REFERRED TO COMMITTEE. (See page 276.)

Dr. Dorsett, Missouri, under "New Business," presented a resolution from the Missouri State Medical Association as follows:

Gentlemen:—At the last meeting of the Missouri State Medical Association, held at Excelsior Springs, Mo., April 16 to 18, this year, the following resolution was passed:

Resolved, That the three delegates of the Missouri State Medical Association to the American Medical Association be appointed a committee to prepare a resolution embodying the sentiments of a paper read by Dr. William G. Moore of St. Louis, entitled "The Present Status of Therapeutics."

This paper dealt with the subject as its title signifies, and drew attention to the fact that many of the remedies now used in the daily practice of the vast majority of the practitioners of this country, were of the so-called proprietary kind, the exact composition of which is unknown, save to the manufacturer of the remedy; and that the practitioner thus using such a remedy lowers the dignity of his profession.

Again, the responsibility of the profession is shown in the license allowed medical journals, which are absolutely their creatures and should be under their control, to advertise these remedies, not only in their advertising pages, but also by reading notices scattered throughout their columns.

Therefore, the delegates of the Missouri State Medical Association respectfully present the following:

WHEREAS, The majority of the so-called proprietary remedies are secret nostrums whose formulæ are unknown to the medical profession; and

WHEREAS, The use of such remedies stifles investigation of rational therapeutics and lowers the standard of our practice to mere empiricism; and

WHEREAS, The medical journals, the creatures of our profession, are filled with advertisements of these nostrums enlisting the attention of the unwary practitioner and resulting in enriching the manufacturer and defrauding the unsuspecting patient; therefore, be it

Resolved, That it is the sense of this body that the use of these remedies by members of the American Medical Association is reprehensible and that these advertisements should not appear in reputable medical journals.

Walter B. Dorsett,
A. R. Kieffer.

Dr. Jones, California, moved the adoption of the resolution. Seconded.

Dr. Bacon, Illinois, moved as an amendment that the resolution be referred to the Committee on Reports of Officers. Seconded by Dr. Harris, New York.

Dr. Jones, California, as the mover of the original motion, asked whether the resolution would be referred by this committee to the House of Delegates before the house adjourned at this session, so that it might be considered by the House of Delegates.

The President replied that this was the full understanding.

Dr. Jones then accepted the amendment to refer the matter to the Committee on Reports of Officers. (See page 276.)

The motion as amended was then put and carried.

Asks That Formulæ Appear in Every Ad.

Dr. Jones, California, moved that the House of Delegates instruct the Board of Trustees to abide by the rule which it adopted in 1895, and in 1900, to the effect that no advertisement of a remedy shall be printed in the pages of The Journal unless the formula, giving the quantities of the active ingredients of each dose, be stated, with each insertion of that advertisement. Seconded by Dr. Sanders.

On motion of Dr. Harris, New York, this resolution was referred to the Committee on Reports of Officers. (See p. 276.)

Report of Trustees Referred to Committee.

Dr. Kober, District of Columbia, moved that the report of the Board of Trustees which, he understood, was printed, but not here for distribution, be turned over to the Committee on Reports of Officers, so as to be predigested by that committee and be taken up to-morrow.

Seconded and carried.

On motion, the House of Delegates adjourned until 2 p. m. Tuesday, to meet in the Atkinson School Building.

Third Meeting—Tuesday, July 11.

The House of Delegates met at 2:20 p. m. and was called to order by President McMurtry.

The President, in assuming the duties of the chair, thanked the house very heartily for the honor that he felt in assuming such a high position, and said that he would not make any formal address on this occasion. He craved the indulgence of the members in discharging his duties, and said he would endeavor to facilitate the transaction of business to the best of his ability and impartially to decide any questions that were presented. But he bespoke the indulgence of the members and their consideration in the discharge of the duties, to which he was unaccustomed.

The Secretary then read the minutes of the previous meeting and they were approved.

Report of the Board of Trustees

For the Year Ending Dec. 31, 1904.

REPORT REFERRED TO COMMITTEE. (See page 276.)

The President called for the report of the Board of Trustees, which was read by Dr. T. J. Happel, Chairman, as follows:

To the Officers, Members, and House of Delegates of the American Medical Association:

As required by the Constitution and By-Laws, we submit the following report of the financial condition of the Association, and trust that it may give you a clear understanding of the business portion of our organization. We commend this report to your careful consideration in order that you may know what the board, as your financial agent, has been attempting to do and how much or how little it has accomplished.

The business of the Association has grown to such a magnitude that we have for the past several years deemed it best to employ regularly licensed accountants to go carefully through all books, accounts and vouchers of the different employes in The Journal office, comparing all entries, and then submitting to us the result of their work, which we pass on. We present you this report in full as made by the Investors Audit Company of Chicago.

Exhibit A. Balance sheet of Dec. 31, 1904.

Exhibit B. Revenue account for the year ending Dec. 31, 1904.

Exhibit C. Disposition of the net revenue for the year ending Dec. 31, 1904.

Exhibit D. Report of the Treasurer Dec. 31, 1904.

Exhibit E. Further comparisons showing financial conditions as compared with 1903.

This last, Exhibit E, is not the work of the Audit Company, but consists of comparisons which we have ourselves instituted in order that you might have a clearer insight into the progress of your matters.

The following is a copy of the Audit Company's report:

The Investors Audit Company.

Chicago, Jan. 23, 1905.

To the Board of Trustees of the
American Medical Association, Chicago.

Gentlemen:

In accordance with your instructions, we have examined the books and vouchers of the American Medical Association for the year ending Dec. 31, 1904, and beg to hand you herewith the following statements:

Balance sheet as at Dec. 31, 1904.
Revenue account for the year ending Dec. 31, 1904.
Disposition of net revenue for the year ending Dec. 31, 1904.

We desire to call your attention to the fact that the new building of the Association, machinery and the furniture and fixtures have been depreciated by 10 per cent. of the book value at the end of the fiscal year. This rate of depreciation has been charged for some years past, and it has naturally had the effect of reducing the book value of the buildings especially, by a greater amount than is usual in the case of buildings of such substantial construction as the one owned by the Association. We are inclined to approve generally of the policy of heavily depreciating property of this nature, but nevertheless it is possible to be over-conservative in matters of this kind, and we would suggest that the amounts of depreciation to be written off in future should be carefully considered. On the other hand, no charge for depreciation of dwelling houses owned by the Association has been made during the last two or three years, on the theory that the dwelling houses have been repaired and improved from year to year to an extent sufficient to maintain their value. The question of revaluing and charging depreciation on these dwelling houses might also be properly considered at this time.

Our audit has been along the same general lines as last year. We have examined properly approved and receipted vouchers for all expenditures, with the exception of some vouchers that have not yet been returned by the bank. We will visit the office of the Association at the end of this month and examine the vouchers returned, and report to you on any that might be missing or imperfect at that time.

During our visit we examined the cash on hand and verified the cash in banks by statements furnished by the bankers. We also examined the securities in possession of the Treasurer, traced all deposits into bank, checked additions of the cash books, and did such other detail work as we deemed necessary for the protection of the Association. The bookkeeping and office work appear to have been very well kept up.

With reference to the accounts written off to profit and loss from year to year as uncollectible, we think it would be well to transfer these to a suspense ledger, in order to lessen the danger of losing sight of them. We shall be glad to discuss the suggestion with you or Dr. Simmons at your convenience, and will also be glad to furnish you with any further information you may desire regarding these accounts.

Yours faithfully, E. M. Mills, Manager.

EXHIBIT A.

Balance Sheet, Dec. 31, 1904.

ASSETS.

Real estate and buildings	$92,403.46
Machinery	27,613.70
Furniture and fixtures	3,879.48
Library	1,008.50
Inventory of paper stock, type, metal and buttons	5,347.65
Bonds	40,199.38
Bills receivable	125.73
Accounts receivable	14,097.29
Cash on hand and in bank	28,795.04
	$213,470.23

LIABILITIES.

Accounts payable		$1,136.05
Section reports paid in advance		279.00
Surplus: Balance as at Jan. 1, 1904	$168,590.15	
Add: Net revenue for the year as per account annexed	43,465.03	212,055.18
		$213,470.23

EXHIBIT B.

Revenue Account for the Year Ending Dec. 31, 1904.

Inventory of paper stock, type and metal, as at Jan. 1, 1904		$5,562.00
Publication Expenses:		
Paper	$56,503.79	
Ink	2,225.58	
Type, metal and electros	2,695.80	
Salaries and pay roll	64,471.26	
News reporting and editorials	7,614.51	
Binding	473.33	
Machinery repairs and renewals	1,181.48	
Advertising and subscription commissions	7,287.08	
Postage, first and second class	18,224.06	
Power, fuel and light	2,667.28	
General expense	3,198.86	
Exchange	426.33	
Collection fees	1,448.81	
Factory supplies	1,550.31	
Office jobbing	1,820.70	
Advertising and transportation	1,058.65	
Express and cartage	921.06	
Miscellaneous losses, less recoveries	1,312.63	
Discount and interest	1,697.56	
Depreciation of machinery, furniture and fixtures	4,499.23	181,298.31
General Expenses:		
Organization	$8,180.34	
Association	7,411.56	
Medical legislation	436.42	
Buttons	1,134.26	
Buildings	1,803.02	
Insurance and taxes	1,568.69	
Depreciation of buildings	3,871.82	24,406.11
Net revenue for the year ending December 31, 1904		43,465.03
		$254,731.45
Advertising		$94,945.60
Subscriptions collected during year		60,742.22
Membership dues collected during year		74,123.04
Jobbing		11,299.79
Books		3,355.51
Buttons		854.65
Rents of Association properties		2,744.34
Miscellaneous receipts		158.65
Interest on bonds		1,160.00
Inventory of paper stock, type, metal and buttons, as at Dec. 31, 1904		5,347.65
		$254,731.45

EXHIBIT C.

Disposition of Net Revenue for the Year Ending Dec. 31, 1904.

Increase in Assets:		
Furniture and fixtures	$398.38	
Library	8.50	
Bonds	25,031.25	
Accounts receivable	4,295.82	
Cash	22,647.69	$52,381.64
Decrease in Liabilities:		
Section reports paid in advance	$176.00	$52,557.64
Decrease in Assets:		
Real estate and buildings	$3,760.25	
Machinery	3,090.00	
Inventories	214.35	
Bills receivable	1,046.59	$8,111.19
Increase in Liabilities:		
Accounts payable	$981.42	$9,092.61
Net revenue for year		$43,465.03

EXHIBIT D.

Report of the Treasurer for the Year Ending Dec. 31, 1904.

RECEIPTS.

1904.	
June 25—Cash received from retiring treasurer	$16,225.50
July 1—Deposit check from editor of Journal	10,000.00
July 1—Deposit coupons	380.00
Oct. 29—Deposit check from editor of Journal	5,000.00
Oct. 29—Deposit coupons	200.00
Dec. 30—Deposit coupons	580.00
Interest on daily balance allowed by bank, 2 per cent.	108.74
	$32,494.24

DISBURSEMENTS.

1904.	
July 8—Cash by check paid Benj. T. Cahn for bonds purchased by Dr. M. L. Harris	$10,140.00

Property of A. M. A. in Hands of Treasurer, Dec. 31, 1904.

	Cost.	Par value.	
Dec. 31—Cash balance in bank			$22,354.24
5/1000 bonds Union P., 1st 4's	$5,207.50	$5,000.00	
5/1000 bonds Erie Ry. Co., 1st 4's	4,932.50	5,000.00	
5/1000 bonds Reading General, 1st 4's	4,870.00	5,000.00	
14/1000 bonds City of Chicago, 4's	15,168.13	14,000.00	
5/1000 bonds A., T. & S. Fe, 4's	4,988.75	5,000.00	
5/1000 bonds B. & O., 1st 4's	5,032.50	5,000.00	
	$40,199.38	$39,000.00	$39,000.00
Receiver's certificates of National Bank of Illinois for $6,794.31 on which 72 per cent. has been paid, leaving a balance of 28 per cent			1,902.41
Total			$63,256.65

Sixty-three thousand two hundred and fifty-six dollars and 30 cents was in the hands of Treasurer December 31, but since then the new improvements have been paid for.

EXHIBIT E.

Amount received from—

	1904.	1903.	Gain.
Membership dues	$74,123.04	$63,237.48	$10,885.56
Subscriptions	60,742.22	52,567.38	8,174.84
Advertisements	94,945.60	88,533.65	6,411.95
Jobbing	11,209.79	8,669.11	2,630.68
Rents	2,744.34	2,185.00	559.34
Buttons	854.65	567.75	286.90
	$244,709.64	$215,760.37	$28,949.27

The real estate has already been referred to in the auditor's report and suggestions made in regard to deductions for depreciation in value. The entire property is kept in repair and its present real value is above what it cost, but business rules have been followed in charging off an annual depreciation, which, while it applies to machinery, furniture and fixtures, does not apply with such force to real estate properly cared for. All of the property is insured. We make no comparative statement of cash and bonds as this matter is set forth in the Treasurer's report.

BOOK-KEEPING.

The consolidation of all the book-keeping of the Association under one head has resulted in greatly simplifying the business methods of the Association. The dues are no longer collected by the Treasurer nor are any accounts kept by him against the individual member. Both members and subscribers pay directly to The Journal, and when the current funds are greater than is necessary the surplus is transferred to the Treasurer. By referring to Exhibit D, the Treasurer's report, you can see plainly how this is carried on. The Treasurer of the Association is no longer a collecting agent but a Treasurer "De jure et de facto." We would call your attention to one item in the Treasurer's report, "Interest on daily balance allowed by bank 2 per cent., $108.74," showing that the money the Association has in bank in the treasurer's account is drawing interest, not lying idle.

ADVERTISING.

The amount actually earned for 1904 for advertising was $94,945.60, an increase of $6,411.95, or about 7 per cent. over 1903, and nearly double that of 1900. These matters are referred to to show the rapid growth of the business of The Journal. This gain comes partly from increased rates, through increase of circulation and in spite of the exclusion from the pages of The Journal of more than $15,000.00 worth of advertisements carried in other reputable journals but which did not come up to our requirements. In the list of excluded advertisements were included not only medicines, but also sanitariums, medical colleges, etc. Less objectionable matter is offered each year.

The Journal has always made an effort to keep its pages free from objectionable advertisements and the Board of Trustees feel that this effort should be met by the profession in a proper spirit, one of assistance, not of captious criticism. In every case where complaints have been made in regard to the character of any advertisement appearing in The Journal, your board has found the Editor ever ready to lend a helping hand to purge its pages without violating any then existing contracts. We feel that we can say that there have appeared in the pages of The Journal fewer objectionable advertisements than in any other medical journal of a similar character published in this or in any other country.

COUNCIL ON PHARMACY AND CHEMISTRY.

The subject of ethical advertising has been before the Board at practically all of its meetings, and has always been *both* a vexed and an unsolvable one. In 1895 the Board of Trustees adopted a rule that no medicine should be advertised in THE JOURNAL that was secret in character, and that medicines whose composition would otherwise not be known should be accompanied with a formula sufficiently often to enable the reader to know its composition. The result has never been satisfactory. Too often the formulæ furnished were untrue and not seldom were direct misrepresentations, as has been proved by recent investigation.

It has long been realized that the conditions underlying the so-called proprietary medicine problem in this country are such that they require investigation on broader grounds than that of their relation to the advertising pages of THE JOURNAL. It is well known that there is a class of pseudo-manufacturing pharmacists, which in recent years has been rapidly increasing in number, that is supplying our profession with all kinds of nostrums for which the most extravagant claims are made. The average physician is not able to distinguish these manufacturers and their products from the reliable manufacturers and their preparations which are worthy of recognition. The number of nostrums has become so great that physicians are bewildered and, finding it impossible to distinguish between them and ethical preparations, hesitate about using any such products. In other countries either the government or an authoritative body, such as the French Academy of Medicine in France, controls such matters, but here nothing is done, and the result is that our profession is being humbugged by nostrum exploiters as much as is the public by the "patent medicine" manufacturers.

Undoubtedly this was realized by the Michigan State Medical Society, which in 1904 adopted resolutions asking that the Board of Trustees of the American Medical Association create a "clearing house commission which should provide for the analysis of medicinal substances of unknown composition and undetermined effects and should have analyses made in reliable laboratories, or should equip a suitable laboratory and should employ one or more competent experts." These resolutions were presented to the House of Delegates of the American Medical Association last year and were referred to the Board of Trustees, but no definite action was taken at that time.

Five years ago a proposition was made to create a body to be called a "Board of Control," to be composed of pharmacists and chemists, which should pass on all advertisements of medicines offered to THE JOURNAL, but at that time the plan was not considered feasible. At our February meeting, after giving the matter full consideration, the Board tentatively created a body to be called the Council on Pharmacy and Chemistry of the American Medical Association, combining in this the principle recommended by the Michigan State Medical Society with that underlying the proposition to create a "Board of Control" five years ago. It is not necessary to discuss the functions of this body, as these have been fully outlined in THE JOURNAL. It should be said, however, that this Council is something more than a body to which to refer matters regarding the ethical character of medicines offered for advertisements, as some seem to think. It is much more than this. The object is to investigate all medicinal preparations that are offered to the medical profession, and to approve those that come up to the standard. Some of the results of the investigations of the Council have already been published.

That its work may be of tangible and permanent value, it is proposed to publish in book form annually a list of the preparations not in the Pharmacopeia that are approved by the Council. Thus those who wish to use only medicine worthy of patronage and non-secret in character, and who have sufficient confidence in the council to accept the results of its work, will have a book of reference for information.

We believe that the Association is to be congratulated on having been able to secure the aid of such men as constitute the Council. We have reason to believe that if the American Medical Association requests it, a semi-official recognition of this council will be made by the Government. In fact, we now have the co-operation of the Bureau of Chemistry of the Department of Agriculture, permission having been given by the Secretary of Agriculture to the Chief of that Department to co-operate with the Council.

If you endorse this movement, the Board of Trustees propose during the coming year to consider plans and preliminary steps looking to the making of this council a permanent organization, the Board to present such plan to you at the next annual session.

REPORT OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

To the Board of Trustees of the American Medical Association:

Gentlemen:—At a meeting held in Pittsburg, February 11, the Council on Pharmacy and Chemistry was organized, George H. Simmons being elected chairman, and C. S. N. Hallberg, secretary.

Two sessions of the Council were held, and, after a thorough discussion the following rules were adopted tentatively:

RULES GOVERNING THE ADMISSION OF ARTICLES.

The following rules are adopted to guide the Council on Pharmacy and Chemistry of the American Medical Association:

(The term "article" shall mean any drug, chemical or preparation used in the treatment of disease.)

Rule 1.—No article will admitted unless its active medicinal ingredients and the amounts of such ingredients in a given quantity of the article, be furnished for publication. (Sufficient information should be supplied to permit the Council to verify the statements made regarding the article, and to determine its status from time to time.)

Rule 2.—No chemical compound will be admitted unless information be furnished regarding tests for identity, purity and strength, and, if a synthetic compound, the rational formula.

Rule 3.—No article that is advertised to the public will be admitted; but this rule will not apply to disinfectants, cosmetics, foods and mineral waters, except when advertised in an objectionable manner.

Rule 4.—No article will be admitted whose label, package or circular accompanying the package contains the names of diseases, in the treatment of which the article is indicated. The therapeutic indications, properties and doses may be stated. (This rule does not apply to vaccines and antitoxins nor to advertising in medical journals, nor to literature distributed solely to physicians.)

Rule 5.—No article will be admitted or retained about which the manufacturer, or his agents, make false or misleading statements regarding the country of origin, raw material from which made, method of collection or preparation.

Rule 6.—No article will be admitted or retained about whose therapeutic value the manufacturer, or his agents, make unwarranted, exaggerated, or misleading statements.

Rule 7.—Labels on articles containing "heroic" or "poisonous" substances should show the amounts of each of such ingredients in a given quantity of the product.

Rule 8.—Every article should have a name or title indicative of its chemical composition or pharmaceutic character, in addition to its trade name, when such trade name is not sufficiently descriptive.

Rule 9.—If the name of an article is registered, or the label copyrighted, the date of registration should be furnished the council.

Rule 10.—If the article is patented—either process or product—the number and date of such patent or patents should be furnished. If patented in other countries, the name of each country in which patent is held should be supplied, together with the name under which the article is there registered.

While thus far the Council has seen no reason to change the above rules, they are still recognized by it as *tentative*, and may be modified, if further experience justifies such modification. Methods of procedure for conducting the work by correspondence similar to the method of the Committee on Revision of the U. S. Pharmacopeia were outlined. That the Council might work economically and effectively, it was divided into three committees, one on pharmacy, one on chemistry, and one on pharmacology.

The announcement containing the tentative rules, with the explanatory comments thereon, was transmitted on February 28 to the manufacturing pharmacists and chemists of the United States, and to others concerned. It was favorably received by nearly all the old established and important houses.

The work of the Council has been conducted through a weekly Bulletin issued every Thursday, twenty numbers having appeared up to July 1. Most of the time during the first ten or twelve weeks was taken up in discussing general principles, that is, the scope of the book "New and Non-Official Remedies," the style that should be adopted in describing articles, methods of procedure, etc. One of the most difficult questions was the attitude to that large class of pharmaceuticals, commonly called "mixtures." To recognize these would seem to defeat the very purpose of the movement, and yet to ignore all of them might appear to be unfair, since some of these mixtures are not objectionable *per se*—i. e., if the mystery and secrecy connected with them were eliminated and if they are not exploited to the public.

The following rules governing the admission of simple mixtures were finally agreed to:

(A) (a) If they represent real originality, and (b) if they promise to be a real improvement on similar existing articles, they shall be admitted.

(B) If they are already used so extensively that their rejection would constitute a real omission.

(C) If the mixture is practically or quite identical with a pharmacopeial or other easily accessible formulary preparation, it should be inserted in the book, under its trade name; but its description should be limited to the statements that it is essentially similar to such or such an official or semi-official formula, with such and such points of difference.

While a number of articles have been approved, their descriptive definitions have not yet been published, because of a desire to consider a large variety of articles before finally deciding on the best method of describing them. It is desired that so far as possible the descriptive matter shall be uniform and of as much benefit as possible to the physicians. Among the articles under investigation are the tasteless or so-called fat-free cod liver oil preparations, and the Council regrets to say that on analysis and investigation some of these are not what they are represented to be. Many interesting facts have already developed, and we feel more than ever the necessity of making haste slowly, in order that no injustice be done, but that at the same time the facts, as far as they can be ascertained, may be given to the medical profession.

The Council understands that its function is to investigate medicinal articles offered to the profession, approving those that comply with just and reasonable standards. Nevertheless, when it finds conditions that are destructive alike to scientific medicine and to pharmacy, it believes it to be its duty to disclose such conditions to the medical profession. Acting on this principle it has already investigated certain acetanilid mixtures and published the results.

Since it is likely to take considerable time before all articles now in the market can be acted on, and since it would not be just to refuse eligible articles admission to the advertising pages of The Journal ad interim, the Council has appointed a subcommittee on advertisements, consisting of three members with whom the management of The Journal confers regarding advertisements of medicines, not yet approved, offered to The Journal.

The Council realizes the difficulties connected with the problem it has undertaken to solve and asks, through your board, the co-operation of the medical profession of the United States. The Council desires to suggest that it would be of great advantage if it could obtain the co-operation of physicians connected with large hospitals so that clinical tests may be made as occasion requires. To thoroughly carry out the work, the Council believes that the therapeutic claims made regarding certain products should be investigated clinically by those who are in a position to conduct such investigations. The Council also believes that a central chemical laboratory in which preliminary tests can be made would be of great advantage. The Council regrets to have lost the active help of one member, Dr. Cushny of Ann Arbor, who has accepted a position in the medical department of the University of London. The Council took the liberty of making him a corresponding member, and as such he will continue to co-operate with the Council.

C. Lewis Diehl,	S. P. Sadtler,
C. S. N. Hallberg,	J. O. Schlotterbeck,
R. A. Hatcher,	G. H. Simmons,
L. F. Kebler,	Torald Sollmann,
J. H. Long,	Julius Stieglitz,
F. G. Novy,	M. I. Wilbert,
W. A. Puckner,	H. W. Wiley.

CIRCULATION.

The regular weekly issue of The Journal of the American Medical Association from Jan 2, 1904, to Dec. 31, 1904, inclusive, 53 issues, was as follows:

1904.	*Weekly Edition.*		1904.		
Jan. 2	30,460		June 4	32,200	
Jan. 9	30,764		June 11	31,157	
Jan. 16	30,725		June 18	31,140	
Jan. 23	30,475		June 25	31,800	
Jan. 30	30,632				126,297
		153,056		*Weekly Edition.*	
Feb. 6	30,700		July 2	31,400	
Feb. 13	30,700		July 9	31,200	
Feb. 20	30,737		July 16	31,300	
Feb. 27	30,876		July 23	31,420	
		123,013	July 30	31,379	
March 5	30,700				156,699
March 12	30,755		Aug. 6	31,305	
March 19	31,161		Aug. 13	34,000	
March 26	30,737		Aug. 20	31,387	
		123,353	Aug. 27	31,441	
					128,133
April 2	30,751		Sept. 3	34,553	
April 9	30,750		Sept. 10	34,587	
April 16	30,683		Sept. 17	33,500	
April 23	20,600		Sept. 24	33,481	
April 20	38,000				136,121
		160,784	Oct. 1	35,035	
May 7	30,706		Oct. 8	35,170	
May 14	30,955		Oct. 15	35,043	
May 21	30,945		Oct. 22	35,080	
May 28	30,950		Oct. 29	35,845	
		123,556			176,173
Nov. 5	35,595		Dec. 3	33,615	
Nov. 12	34,059		Dec. 10	34,511	
Nov. 19	35,154		Dec. 17	34,628	
Nov. 26	34,596		Dec. 24	34,044	
		139,404	Dec. 31	35,015	
					171,813
Grand Total		1,718,402	Weekly average		32,423

The total number of copies issued during 1904 was 1,718,402.

The total number of copies issued during 1903 was 1,487,080.

This is an increase of 230,422 or 15½ per cent.

The following is a detailed count of the mailing list of members and subscribers by states on Jan. 1, 1905. It also indicates the gains and losses in each state for 1904. Copies to the U. S. Army, Marine-Hospital Service, etc., omitted.

State.	Members.	Subscribers.	Totals.	Gain for Year.	Loss for Year.
Alabama	205	133	338	...	61
Arkansas	244	206	450	141	...
Arizona	22	42	64	3	...
Alaska	...	2	2	1	...
California	650	545	1,195	279	...
Colorado	338	200	538	1	...
Connecticut	279	158	437	122	...
Delaware	35	11	46	7	...
Dist. of Columbia	189	203	392	...	...
Florida	110	72	182	73	...
Georgia	236	167	403	43	...
Idaho	57	35	92	27	...
Illinois	1,622	1,719	3,341	298	...
Indiana	667	712	1,379	199	...
Indian Territory	46	99	145	...	1
Iowa	707	744	1,451	266	...
Kansas	208	381	589	44	...
Kentucky	400	336	736	98	...
Louisiana	402	272	674	112	...
Maine	151	127	278	135	...
Maryland	310	309	619	28	...
Massachusetts	695	481	1,176	232	...
Michigan	685	837	1,522	154	...
Minnesota	487	259	746	85	...
Missouri	538	768	1,306	101	...
Mississippi	204	183	387	85	...
Montana	74	56	130	13	...
Nebraska	315	267	582	165	...
New Hampshire	127	84	211	58	...
Nevada	12	24	36	5	...
New Jersey	477	219	696	129	...
New York	1,036	992	2,028	393	...
North Carolina	94	125	219	...	30
North Dakota	76	81	157	10	...
New Mexico	36	32	68	...	1
Ohio	1,073	782	1,855	68	...
Oklahoma	67	122	189	...	6
Oregon	125	113	238	19	...
Pennsylvania	1,951	952	2,903	687	...
Rhode Island	122	73	195	26	...
South Carolina	95	110	205	14	...
South Dakota	97	100	197	31	...
Tennessee	333	291	624	35	...
Texas	542	520	1,062	171	...
Utah	72	52	124	23	...
Vermont	118	62	180	52	...
Virginia	222	278	500	95	...
Washington	180	169	349	29	...
West Virginia	198	152	350	72	...
Wisconsin	546	459	1,005	108	...
Wyoming	22	29	51	9	...
Canada	9	133	142	21	...
Cuba	2	7	9	2	...
Hawaiian Islands	9	10	19	...	1
Mexico	12	28	40	5	...
Philippine Islands	15	14	29	14	...
Porto Rico	3	5	8	2	...

The figures below indicate the count of the mailing list Jan. 1, 1905, compared with that of Jan. 1, 1904.

	Jan. 1, 1904.	Jan. 1, 1905.
Copies to members	13,899	17,570
Copies to subscribers	14,674	15,698
Copies to exchanges	203	178
Copies to advertisers	321	248
Copies to medical colleges and libraries	102	98
Copies to subscription agents	88	90
	29,287	33,882

This indicates a net increase for the year 1904 over 1903 of 4,595, being a little more than 15.6 per cent.

The amount collected from subscribers during 1904 was $60,742.22.

The amount collected from subscribers during 1903 was $52,567.38.

This indicates an increase in collections of $8,174.84. It will be noted that the subscription department is credited with 15,698 names. Inasmuch as the well-established physician usually becomes a member of his county society and of the Association, and pays dues instead of subscription, the collections from subscriptions, proportionately, are very good.

It will be noted that there is a gain of 4,695 in members and subscribers for the year 1904 over 1903. There have been dropped from the membership list for various reasons, 942, and from the subscription list, 3,765. It will therefore be seen that nearly 8,500 new names have been placed on the mailing list during the past twelve months.

During 1904, 2,009 subscribers became members; hence were transferred from the subscription to the membership list. And as county societies are becoming more numerous, as well as increasing their membership, it is to be expected that each year a larger proportion of the subscribers will avail themselves of the opportunity of becoming members of the American Medical Association.

PERCENTAGE OF PHYSICIANS RECEIVING THE JOURNAL.

This table gives the number of physicians (based on Polk's and Standard directories) in 1904 in the United States, and the number receiving THE JOURNAL, and the percentage in each state. Copies to physicians in the U. S. Army, Marine-Hospital Service, etc., omitted.

State.	Physicians in State.	Number Receiving Journal	Approximate Per cent.
Alabama	2,114	338	15
Arkansas	2,382	450	19
Arizona	210	64	31
Alaska	55	2	4
California	3,921	1,195	30
Colorado	1,506	538	36
Connecticut	1,361	437	32
Delaware	227	46	20
District of Columbia	1,030	392	38
Florida	660	182	28
Georgia	2,769	403	15
Idaho	227	92	41
Illinois	8,517	3,341	39
Indiana	4,902	1,379	28
Indian Territory	801	145	18
Iowa	3,791	1,451	38
Kansas	2,566	589	23
Kentucky	3,387	737	22
Louisiana	1,462	674	44
Maine	1,229	278	23
Maryland	1,922	619	32
Massachusetts	5,150	1,176	23
Michigan	4,274	1,522	36
Minnesota	1,960	746	38
Missouri	6,089	1,306	21
Mississippi	1,663	387	23
Montana	356	130	37
Nebraska	1,647	582	35
New Hampshire	705	211	30
Nevada	84	36	43
New Jersey	2,302	696	30
New York	13,316	2,028	15
North Carolina	1,607	219	14
North Dakota	340	157	46
New Mexico	203	68	33
Ohio	8,112	1,855	23
Oklahoma	1,027	189	18
Oregon	692	238	34
Pennsylvania	9 714	2,903	30
Rhode Island	680	195	29
South Carolina	1,160	205	18
South Dakota	523	197	38
Tennessee	3,430	624	18
Texas	4,935	1,062	22
Utah	301	124	41
Vermont	701	180	26
Virginia	2,065	500	24
Washington	910	349	38
West Virginia	1,410	350	24
Wisconsin	2,500	1,005	40
Wyoming	133	51	38

We present below a table showing the numbers of members and subscribers for each year commencing with 1899, the time about which our present editor took charge of THE JOURNAL.

	Members.	Subscribers.
Jun. 1, 1899	7,997	2,453
Jan. 1, 1900	8,445	4,633
Jan. 1, 1901	9,841	8,339
Jan. 1, 1902	11,107	10,795
Jan. 1, 1903	12,553	12,378
Jan. 1, 1904	13,899	14,674
Jan. 1, 1905	17,570	15,698

It will be noticed from the table that, while there has been a slow and steady increase in the number of members, there has been a rapid increase in the number of subscribers.

The Board desires to emphasize a portion of the report made to you last year in Atlantic City and to do this we insert this report: The report presented by the Editor to your Board of Trustees reveals the fact that much increase in the membership and subscription lists has been the result of labors of soliciting agents. These agents visit the members of the profession and present the advantages of membership in the Association and the value of THE JOURNAL to them personally, and thus many members and subscribers have been secured. The attempt to increase the membership list by correspondence with the secretaries of county medical societies proved almost a complete failure. Occasionally one would respond, but as a rule they manifested little or no interest in the matter, even when offered a commission on the result of their work. This is not as it should have been. Every county medical society should be canvassed for members of the Association and subscribers to THE JOURNAL, and it should be the duty of the president and secretary to present their claims on the medical profession at least twice a year to their county medical societies. This should be the great source of increase of membership to the Association.

The work of organization, the result of which is the creation of new societies, makes more physicians eligible to membership, but it does not increase the number of those that actually become members until they are personally solicited, and the one who will do this is the one who is paid for it.

These tables show that we have a pretty fair percentage of the physicians of the country. We, therefore, can not expect to make the proportionate progress that we have made in the past. THE JOURNAL only appeals to the fairly well educated physician, and, while an increasing proportion of the members of the profession are gradually becoming of a higher standard, still the proportionate increase in our circulation can not be expected in the future.

We feel that the claims of THE JOURNAL are not presented as they should be to the members of the county medical societies. This is evidenced by the fact that the number of physicians who receive THE JOURNAL as compared with the whole number of physicians reported in the state, ranges from 14 per cent. in North Carolina and 15 per cent. in Alabama, Georgia and New York to 40 per cent. in Wisconsin, 41 per cent. in Idaho and Utah, 43 per cent. in Nevada, 44 per cent. in Louisiana and 46 per cent. in North Dakota. Certainly a greater number of physicians, than any of the percentages above given, need and will take THE JOURNAL if its claims are presented to them. Every individual member of the American Medical Association should feel it incumbent on him to be a quasi agent for its official organ and we would earnestly urge upon them the necessity for taking this matter in hand. The work must be entered on in earnest to accomplish the ends which our Editor has in view.

PAPER STOCK.

At the meeting of the House of Delegates at Atlantic City, questions were asked in regard to using a softer finished paper in THE JOURNAL so that it would be easier on the eyes. This is now being done. The Editor reports a change in the paper contract of this year from last. Eastern paper is now used, three grades being contracted for, a high machine finished, a super-calendered, and coated or enameled paper for fine halftones.

As you have noticed, the size of THE JOURNAL has been gradually increased, the total number of pages in the last volume being 2,118, exclusive of the advertising pages.

The following table gives the total number of copies of THE JOURNAL issued each year for the past seven years (the various items for 1898 being estimated), total number of pages, and amount of paper stock used in reams, and pounds:

	Total No. Copies.	Pages.	Reams.	Lbs. of Paper
1898	597,282	4,756	3,395	321,525
1899	710,950	5,382	4,832	461,420
1900	907,200	6,087	6,747	607,230
1901	1,146,575	6,510	9,052	814,680
1902	1,316,695	6,522	10,230	938,700
1903	1,487,980	6,248	12,368	1,113,100
1904	1,718,402	7,108	14,399	1,295,910

MACHINERY.

It is unnecessary to repeat the inventory of the machinery given in last year's report. The growth of THE JOURNAL business has shown the need of more machines with which to carry on its business promptly. The increase in the size of THE JOURNAL, with the demand for illustrations and insertions, have caused a change to a magazine form with a cover. This change demanded a covering machine which cost about $3,500.00. A folding machine, linotype machine, paper cutter, and other machinery have also recently been purchased (all of which have become absolutely necessary), at a cost of about $9,000.00.

CHANGE IN THE FORM OF THE JOURNAL.

Commencing October 1, the form of THE JOURNAL was changed from a saddle stitch to a side stitch, with cover; in other words, was made magazine shape. This was done at the time for the reason that we were compelled to enlarge by sixteen to thirty-two pages each week, and it was a physical impossibility with our facilities to do this under the old form.

The advantages, however, are many: It gives us an opportunity to use a soft-finished paper for the reading matter, making it more pleasing to the eye and more easily read. It gives an opportunity to use a supercalendered paper for the ordinary halftones, and put in any number of pages and put them in in practically any part of the book. It makes it possible to put in the finest coated paper at a smaller expense than with the old method of inserts, when specially fine illustrations are used: it gives us a chance to vary the number of pages with little inconvenience. Further advantages are that the cover protects THE JOURNAL and keeps it in better form on the office table, and that, when filed on the shelf, the number and date is visible on the center of the back, making it possible to find the number wanted at a glance.

BUILDING.

Within two years after the completion of our new building it was found that more room was needed. Three years previously when the plans for the building were adopted, it was supposed that the building would be sufficiently large to accommodate our plant for many years; yet within two years' time it was found to be too small, and recently THE JOURNAL has been gotten out with difficulty owing to cramped conditions. This, of course, is the result of the increase in THE JOURNAL, not only in circulation but in size. After a careful discussion of the various possibilities, it was concluded that the most satisfactory solution would be to extend the building to cover the back of the lot facing Indiana St., and to put on another story. Plans had been secured from an architect and bids received at our February meeting and at that time contracts were let. The additions have now been completed, except a slight amount of inside work yet to be finished.

These additions, when completed, will cost approximately $20,000.00, and this expenditure has been made without any sacrifice of the reserve fund of the Association. The addition gives us 50 per cent. more floor space, and it is believed we will have ample facilities for the work now being done and that which is contemplated. The building now is of four stories, besides a high, 16-foot basement, 40 feet wide, except the east 40 feet which is 34 feet wide, and 140 feet long.

HOUSES.

As is known, in addition to THE JOURNAL building, to which references have been made, the Association owns five residence houses, three fronting on Dearborn Ave., and a double house facing Indiana St. Those on Dearborn Ave. are rented at $60.00, $55.00, and $40.00 respectively, per month. They have needed but little repair and have been a source of steady income. The double house bought later has now been gotten in good condition, and rents for $130.00 per month.

It has been and will be the policy of your Board of Trustees to keep this property in good condition so that it may rent readily and profitably, aiding materially in meeting the interest on the amount invested in the entire property. Much of this work falls on the resident trustee, who, with the Editor, really acts as a committee on JOURNAL property.

Having gone fully last year into the details of the property investments made by the Board, we do not deem it necessary at this point to repeat any of that part of our report. Suffice it to say that we feel sure that the fact that we are no longer forced to rent for our own use whatever we could get, but now own our own building, and rent to others the surplus space, which for the present we do not need; and as stated last year, the further fact that what we save by owning our own publishing house, and what we receive from rents amounts to about 6 per cent. on the capital invested, shows good business management.

INVESTMENTS.

We reported to you last year that the Association owns school bonds of the City of Chicago—par value $14,000.00—worth on the market $15,168.13, and in addition thereto 25 railroad bonds—par value $25,000.00—worth $25,031.28, making a total of $40,199.38. Since then we directed the resident trustee to invest $10,000 more in bonds. We wish to impress the fact that this fund should not be encroached on for any purpose. It should be kept as a reserve fund out of which to meet emergencies that may arise in the future. No business enterprise can long prosper which does not have a reserve fund. The amount of business done at THE JOURNAL office demands such a fund of not less than $150,000.00.

These bonds now on hand all draw 4 per cent. interest, so that you see that it is not a useless fund, but would at all times be furnishing some revenue to the Association.

APPROPRIATIONS.

In addition to the amount already mentioned as appropriated for the purchase of machinery and for the addition to THE JOURNAL building, your Board of Trustees, acceding to the request of the House of Delegates, in many matters made numerous appropriations, some of the more important of which are as follows:

The sum of $600.00 was set apart, $50.00 for each of the twelve sections, with which to defray all necessary expenses connected with their annual meeting. Stationery and printing will be done for them as formerly at THE JOURNAL office. No bills for printing done outside of THE JOURNAL office will be paid. Five hundred dollars was appropriated to cover all the expenses of the Scientific Exhibit.

An honorarium of $250.00, as asked for by the House of Delegates, was ordered paid to Dr. Frank B. Wynn as a mark of appreciation for services rendered in connection with that exhibit as the originator.

A sum not to exceed $500.00 was set apart for the use of the Committee on Scientific Research.

A sum not to exceed $300.00 was appropriated to the Committee on National Incorporation of which Dr. Joseph D. Bryant of New York is Chairman.

One thousand dollars was appropriated for the use of the Committee on National Legislation of which Dr. C. A. L. Reed is Chairman.

Two hundred dollars was set apart for the expense of the Exhibit of the Section on Hygiene and Sanitary Science at the Portland session.

A sufficient sum was appropriated to meet the expenses of the Council on Pharmacy and Chemistry.

A sum not to exceed $750.00 was appropriated to defray the expenses of the Council on Medical Education.

From the above it will be seen that a considerable sum has been set apart to advance the interests of the Association in addition to the amount needed for new machinery and the enlargement of the building. These amounts will probably consume all of the profits of THE JOURNAL office for the next year; hence other appropriations must be carefully safeguarded.

BONDS OF OFFICIALS.

As in all other business enterprises where much money is handled all of the officials having control of funds are under bonds, furnished at the expense of the Association by first class, solvent Bonding Companies.

BLUE BOOK AND DIRECTORY.

At your last meeting the Board recommended that you consent to the publication by THE JOURNAL, after proper correspondence with the secretaries of the state societies, and receiving their co-operation, of a directory of the members of the American Medical Association and of the state associations, by states, counties, etc. Correspondence was entered into with the officials of the various constituent associations, with the idea of getting this co-operation and publishing such a blue book during the spring of this year. Two difficulties were encountered, however. One was the fact that certain states would not be able to supply the information required until May, and in some instances June. The second difficulty, and one that could not be overcome, was the fact that owing to the lack of room in THE JOURNAL plant, it was impossible to undertake the mechanical part of the work until the new building was completed.

As will be remembered, in the report adopted by the Association at St. Paul, one of the objects to be accomplished in the near future was the publication by the Association of a complete directory of the registered physicians of the United States. At the last meeting of the Board of Trustees it was decided that the time had arrived for the publication of such a general directory. The firm of Geo. P. Englehard & Co., publishers of the Standard Directory, having made an offer to sell their directory on favorable terms, with all its good will, list of names, etc., the Resident Trustee and the Editor were authorized to enter into negotiations for the purchase of such directory, and if terms as laid down by the Board of Trustees could be secured, then the purchase was to be made. Such terms were secured and the Standard Directory has been bought by the Board of Trustees, subject to your approval. The Trustees believe that the terms on which they have obtained this directory are decidedly favorable, and make it possible for the Association to immediately publish a reliable and complete directory at a very greatly reduced first cost. Under these circumstances the Board recommends that the so-called blue book be not published, but instead of it the complete directory be published and that the names of members of the organization, i. e., members of the constituent associations and of their component branches, be printed in said directory in large type, and those of non-members in ordinary type.

NATIONAL INCORPORATION.

The Committee on National Incorporation presented to Congress a bill proposing to incorporate this Association with a National Charter. The effort was futile. The bill was soon made to read in such a way as to limit its rights and privileges to the District of Columbia, but your committee on National Incorporation will no doubt give you a detailed report on that subject.

If through Congress a charter can be obtained limited to the District of Columbia only in its rights and privileges, subject to change at any time as may be dictated by a partisan Congress, then it would be better to leave the matter of incorporation alone.

The property interests of the Association in the state of Illinois have now become too great to abandon our charter of incorporation in that state. Where our property interests are, there we should be domiciled. A home corporation, as a rule, gets more rights and privileges than does a foreign one. This is a matter to be viewed from a business standpoint alone. A District of Columbia charter will be no better than an Illinois charter, and would have to be registered as a foreign charter in that state, as would be the case with a charter granted by any state in the Union.

IN CONCLUSION.

We have tried to present to you in a succinct form a report of our stewardship for the past year. We are aware that we have been criticised, sometimes harshly, for our management of the business affairs of THE JOURNAL and the Association, but you constitute the court of arbitrament, and with this presentment of the case we leave the matter in your hands, asking you to join the Board in a vote of thanks to our Editor, Dr. Geo. H. Simmons.

Respectfully submitted,
M. L. HARRIS, Secretary,
E. E. MONTGOMERY,
W. W. GRANT,
H. L. E. JOHNSON,
W. H. WELCH,
A. L. WRIGHT,
MILES F. PORTER,
PHILIP MARVEL,
T. J. HAPPEL, Chairman.

Michigan Resolutions on Medical Directory.

In connection with the report of the Board of Trustees, Dr. Eugene Smith, Michigan, presented resolutions from the Michigan State Medical Society relative to the publication of a medical directory by the American Medical Association. These resolutions are as follows:

WHEREAS, It seems that the Trustees believe that it is desirable to publish a complete medical directory of the United States, notwithstanding the recommendations adopted at Atlantic City last year, which reads: "The Board recommends that the House of Delegates consent to the publication, by the Editor of THE JOURNAL, after proper correspondence with the secretaries of state societies, and receiving their co-operation, of a directory of the members of the American Medical Association and of the state associations, by states, counties, etc."

Resolved, That this House of Delegates hereby instructs the Board of Trustees to confine the contemplated directory to a list of the members of the American Medical Association.

Resolved, That they, the Board of Trustees, be instructed not to complete the contemplated purchase of the Medical Directory known as the Standard, or Engelhard's.

After reading the resolutions, Dr. Smith moved that the House of Delegates accept the resolutions and instructions contained therein.

Dr. Griffith, Missouri, moved that the report of the Board of Trustees and the resolutions offered by Dr. Smith be referred to the proper committee. Seconded.

Dr. Jones, California, made the point of order that the report of the Board of Trustees was referred by motion of yesterday to the Committee on Reports of Officers.

The Chairman ruled that the submission of the report of the Board of Trustees by its chairman was the question really to be considered.

Dr. Craig, Pennsylvania, moved that the amended report, as he understood there were some changes made in it, be accepted and referred to the Committee on Reports of Officers. Seconded.

After Dr. Griffith had withdrawn his motion, the motion of Dr. Craig was put and carried.

Council on Medical Education.

REPORT ACCEPTED AND REFERRED TO COMMITTEE. (See p. 278.)

The President called for the report of the Council on Medical Education, which was read by the chairman of that committee, Dr. Arthur D. Bevan, Illinois, as follows:

Mr. President and Members of the House of Delegates:

The Council on Medical Education desire to submit to you the following report:

During the year the Council, consisting of William T. Councilman of Boston, Victor C. Vaughan of Ann Arbor, Charles H. Frazier of Philadelphia, J. A. Witherspoon of Nashville, and Arthur D. Bevan, of Chicago, held three meetings, one in Philadelphia in December, one in Chicago in April, and one in Portland in May.

The transactions of the Philadelphia and Chicago meetings were reported in THE JOURNAL of the Association and a reprint is at the disposal of each delegate.

The Chicago meeting was a conference with delegates from the state and territorial licensing bodies, representatives from the associations of medical colleges from the government medical services, and men invited to represent colleges of liberal arts. This conference was regarded by the members of the council as a distinct success and augurs well for the future. Forty-two states and territories appointed delegates, the Army and the Public Health and Marine-Hospital Service sent representatives, committees of the Association of American Medical Colleges and the Southern Medical College Association were present, and a number of men representing colleges of liberal arts took part in the discussions by invitation. At this conference reports of sub-committees on preliminary education and curriculum were presented to furnish a basis for discussion. These reports are not to be regarded as final reports of the Council.

The general opinion of the Chicago conference seemed to be that such a body as the council, representing the American Medical Association, might be the nucleus about which could be drawn the other important bodies interested in elevating medical education. In this way could be brought together the representatives of the state and territorial examining and licensing boards, the government services, the medical schools and the schools of liberal arts in annual conference; and it was felt that by such united action much could be accomplished. Most of the state licensing bodies are anxious to learn and to execute the desires of the medical profession and to see established a body such as the Council on Medical Education of the American Medical Association, from whom they may obtain official expression of such desires.

It would seem most essential that the council work in close co-operation with the state and territorial examining and licensing boards. In order to do effective work the council must have a permanent organization, with permanent headquarters and permanent secretary. To this end the council, after careful consideration, recommends permanent headquarters in close touch with The Journal, and recommends to the trustees as permanent secretary Dr. George W. Webster, who has, as is well known, devoted much time and thought to the subject of the control and elevation of medical education, and we recommend that the trustees provide the necessary machinery to enable the permanent secretary to do effective work.

As a result of the year's study of the question of medical education the council desires to submit the following brief statement as to the position which it is believed the American Medical Association should take in regard to medical education.

1. One of the chief functions of the American Medical Association should be the elevation of medical education in this country and it should be its avowed purpose to secure throughout this country, within a reasonable time, as high a standard as that of any country in the world. Our position as a civilizing power and in commerce and arts and sciences demands this of American medicine.

2. The elevation from present conditions to the high standard desired must be gradually brought about in justice to all concerned and we would not at this time recommend too sweeping changes.

3. The ideal standard to be aimed at from our present viewpoint should consist of:

> a. Preliminary education sufficient to enable the candidate to enter our recognized universities, the passing upon such qualifications by the state authorities.
>
> b. A five year medical course, the first year of which should be devoted to physics, chemistry and biology, and such arrangements should be made that this year could be taken either in a school of liberal arts or in the medical school. Of the four years in pure medical work, the first two should be spent in laboratories of anatomy, physiology, pathology, pharmacology, etc., and the last two in close contact with patients in dispensaries and hospitals in the study of medicine, surgery, obstetrics and the specialties.
>
> c. A sixth year as an interne in a hospital or dispensary should then complete the medical course.

Under such a scheme the majority of men would begin the study of medicine between 18 and 19 years of age and would graduate from the hospital interneship at from 24 to 25. A college education is recognized as a desirable preparation for a limited number of men, but it is thought that it is not and never will be desirable to make such college education a requirement to the study of medicine, as it would make the age of graduation from 27 to 28 years, which is regarded as too old a period at which the young medical man should begin his life's work. It is obvious that this very desirable scheme of requirements can not be at once demanded or recommended. Under present conditions what requirements can the American Medical Association demand by reason of giving to them its official sanction? It would seem to the council that the following scheme is reasonable and could be made effective:

> a. A high school education or such education as will admit the student to our recognized universities. This requirement to be passed on by specially designated state authorities, such as the superintendent of public instruction or his representatives, and not by the faculty of the medical school.
>
> b. A four year course in a medical college giving at least a seven months' course, no two courses to be taken in the same year. This course to be approved by a conference between the Council on Medical Education and the state and territorial licensing boards and college authorities.
>
> c. The graduation from such an approved school should simply entitle the candidate to an examination before the state examining board.
>
> d. The passing before a state licensing board of a satisfactory examination and the securing of a license to practice.

It is not believed that the time is ripe for the discussion of reciprocity and the many other interesting and important subjects included in the broad question of medical education. The first step must be the general and unanimous acceptance of the broad general principles outlined.

It is believed that with the establishment of an efficient permanent headquarters, with an active secretary, that the influence of the American Medical Association can secure the general adoption of these requirements within a very short time.

We believe that it will require about two years to secure the general adoption of these requirements by state boards and medical schools, and we, therefore, recommend that the effort be made to make these requirements effective by January 1, 1908. We believe that the American Medical Association can do much toward making American medicine second to that of no country in the world.

We respectfully ask your approval of this report.

Arthur Dean Bevan, Chairman.
William T. Councilman.
Victor C. Vaughan.
Charles H. Frazier.
J. A. Witherspoon.

Dr. Wells, Illinois, moved that the report of the committee be accepted and referred to the Reference Committee on Medical Education. Seconded by Dr. McCormack and carried. (See page 278.)

Committee on Senn Medal.

REPORT ACCEPTED AND MEDAL AWARDED DR. YATES.

When the report of the Committee on Senn Medal was called for, Dr. Harris, Illinois, in the absence of the chairman of the committee, stated that he was asked by the chairman to present the report. The committee had awarded the Senn prize this year to the author of an article entitled "An Experimental Study of the Local Effects of Peritoneal Drainage." This article had been presented to the committee under the pseudonym of "Mehr Licht." The committee submitted the paper and sealed name of the author to the House of Delegates with the recommendation that the author be awarded the medal.

It was moved that the report of the committee be accepted and the prize awarded as recommended by the committee. Seconded and carried.

The President opened the sealed envelope containing the name of the author and stated that the prize had been awarded by the committee and approved by the House of Delegates to Dr. J. L. Yates, 710 Sedgwick street, Chicago. (Applause.)

Committee on National Incorporation.

REPORT REFERRED TO COMMITTEE. (See page 277.)

The next order was the report of the Committee on National Incorporation, which was read by the chairman, Dr. Joseph D. Bryant, New York, as follows:

To the Officers and Members of the House of Delegates of the American Medical Association.

Gentlemen:—It is with a keen sense of duty and regret that the members of the Committee on National Incorporation of the American Medical Association, by a Special Act of Congress, submit at this time a report to you expressive of their labors during the past year in the efforts to secure national incorporation, together with the results of these efforts and the prospective status of such incorporation, with recommendations relating thereto. As is well known to you already, this committee was appointed at the session of the Association in New Orleans in 1903. The committee was empowered "to get advice of the best legal talent in the United States as to whether or not the Association could be incorporated under an act of Congress and to report at the next annual session of the House of Delegates." In harmony with this resolution, the committee submitted to your consideration and action at the session of the Association in June, 1904, two reports—a preliminary and a final report, the former being printed and the latter being read by the chairman of the committee in due order of business in the House of Delegates. But one (the preliminary report previously forwarded to the Secretary) appeared in THE JOURNAL of the A. M. A. In view of the fact that the unpublished final report was the one adopted by your honorable body, we are now prompted to present again their salient features of difference. The words "establish and maintain in the District of Columbia" of the *preliminary report (THE JOURNAL, A. M. A., June 11, 1904, p.* 1582) were eliminated and the words "anywhere in the United States" were introduced in lieu thereof. In both instances, however, it was provided that *corporate* business could be transacted anywhere in the United States. The difference between these propositions is evident. One contemplated incorporation in the District of Columbia, with the power of doing business anywhere in the United States; the other contemplated incorporation in the United States, with, of course, a similar power.

The final report was accepted unanimously and referred to a joint committee for consideration and recommendation for final action, made up by the Committee on National Legislation, the Reference Committee on Medical Legislation, and the Board of Trustees. June 7 the joint committee, through its Chairman, Dr. T. J. Happel, submitted the following resolutions, which were adopted:

Resolved, That the Board of Trustees be and hereby is instructed to make such changes in the present charter as may become necessary or desirable, owing to changes which have been made in the Constitution and By-Laws, and

Resolved, That the Committee on National Incorporation, together with the Board of Trustees, be and hereby is instructed to secure from Congress, is possible, a suitable and desirable charter.

Immediately after the adoption of the foregoing resolutions, the following resolution, offered by Dr. John B. Roberts of Philadelphia, was likewise adopted:

Resolved, That the officers and the members of the House of Delegates of the American Medical Association now in session at Atlantic City, do hereby pledge their loyal support and earnest efforts in aid of securing national incorporation of the American Medical Association by a special act of Congress.

In response to this resolution, the officers and members of the House of Delegates then promptly petitioned Congress for such incorporation; and to each member of the House of Delegates was given a like petition for signature by the members of the Association, within his jurisdiction, with the request to forward the same to the Chairman of the Committee on National Incorporation as soon as suitably signed. About the middle of August, 1904, the following petition, embodying the charter as then amended by Judge Ray, and addressed to the judiciary committees of the House and the Senate, was sent by the Committee of Incorporation to the officers and members of the House of Delegates, requesting the signatures of members of the Association and of other physicians, and a prompt return of the petition to the chairman of the Committee on National Incorporation for compilation and presentation to Congress early in the fall.

THE PETITION.

Gentlemen of the Judiciary Committee of the Senate and House of Representatives of the United States of America:

We, the undersigned, members of the medical profession throughout the United States, most respectfully request the speedy enactment of the following proposed bill incorporating the American Medical Association:

Be it enacted by the Senate and House of Representatives in Congress assembled:

Section 1. That Robert M. O'Reilly, M.D., Presley M. Rixey, M.D., Walter Wyman, M.D., E. H. Gregory, M.D., Henry O. Marcy, M.D., Nicholas Senn, M.D., George M. Sternberg, M.D., J. M. Matthews, M.D., W. W. Keen, M.D., C. A. L. Reed, M.D., J. A. Wyeth, M.D., Frank Billings, M.D., J. H. Musser, M.D., T. J. Happel, M.D., Miles F. Porter, M.D., E. E. Montgomery, M.D., W. W. Grant, M.D., H. L. E. Johnson, M.D., A. J. Wright, M.D., William H. Welch, M.D., M. L. Harris, M.D., and Philip Marvel, M.D., and their successors, are hereby made and constituted a body politic and corporate by the name American Medical Association, with perpetual succession and power to take, for the purposes of its incorporation, by devise, bequest, grant, gift, purchase or otherwise, and hold or convey both real and personal property, and transact business, anywhere within the United States.

Sec. 2. The object and purpose of such corporation shall be to promote the science and art of medicine throughout the United States.

Sec. 3. Such corporation shall have power to make by-laws, rules and regulations, and choose officers for its government and the attainment of its purposes.

The proposed charter declares the purposes of the Association. It is non-political, and has for its main object the promotion of medical science which can best be accomplished by unity of purpose and action. Such association will bring together annually the best and most accomplished medical men of the Nation and prove, we believe, beneficial to all the citizens of our country.

The following letter to the chairman of the committee from Judge Ray relating to the above change in the phraseology of charter is here introduced:

August 13, 1904.

Dear Dr. Bryant:—You will notice that I have made some changes in the wording of the proposed National Charter of the American Medical Association. But no change is made that will any way affect its efficiency. In fact, it is broader and more comprehensive as it is.

The object and purpose of the corporation is to promote the science of medicine throughout the United States. This it may do in any manner not condemned by law. Then the charter should not undertake to say how or by what means the science of medicine is to be promoted by this society, as it may adopt any and all means when the power is granted in general terms. If the charter specifies at all, then what is not included is excluded, hence, there should be no specification of the means to be used. You will note that the language is explicit that property, both real and personal, may be owned, etc., anywhere in the United States and that the corporation may transact its business anywhere within the Union.

Very sincerely yours, GEO. W. RAY.

Occasionally appeals by the chairman of the Committee on Incorporation to the members of the House of Delegates of the respective states were made, and in most instances received prompt and productive response. As the result of these efforts thirty-two states, the District of Columbia and Indian Territory responded in favor of incorporation, submitting a grand total of signatures of between six and seven thousand, of which Pennsylvania provided the largest number (about 1,100), while Ohio, New Jersey, Michigan, Colorado, Kentucky and Tennessee followed in consecutive order. It is both just and proper to say at this time that no state or territory, whether represented by many, few or no signatures, expressed disfavor of national incorporation.

About the first of January, and in accordance with a previous understanding with Dr. C. A. L. Reed, the efficient chairman of the Committee on National Legislation, Dr. Reed was requested to exercise the influence of his committee in aid of national incorporation. The request was promptly heeded and resulted in securing about four thousand additional signatures to the request for incorporation, making in all between 10,000 and 11,000 petitioners in behalf of this request. The response to this committee's request on the part of the Committee on National Legislation was prompt, comparatively prolific and likewise persistent, extending somewhat beyond the time of adjournment of Congress. For this significant aid to the efforts of incorporation the special Committee on Incorporation extends its grateful appreciation.

THE ORIGINAL BILL.

Jan. 8, 1905, the following bill (see the petition above) was introduced into the House. The introduction of the name of Lewis S. McMurtry, M.D., the President-elect of the Association, and the expression in full of the titles and the residences of the incorporators comprise the only differences between the petition as freely circulated by the Committee on Incorporation and the Bill of Incorporation as introduced at the above date.

The seeming delay in the introduction was occasioned by special advice opposed to an earlier period of action, emphasized not a little because of the previous paucity of the signatures favoring incorporation.

Fifty-eighth Congress, Third Session. Sub Committee No. 1.
H. R. 17335.
In the House of Representatives, Jan. 9, 1905.

Mr. Dwight introduced the following bill, which was referred to the Committee on the Judiciary and ordered to be printed:

A bill to incorporate the American Medical Association:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That Robert M. O'Reilly, doctor of medicine, Washington, District of Columbia; Presley M. Rixey, doctor of medicine Washington, District of Columbia; Walter Wyman, doctor of medicine, Washington, District of Columbia; E. H. Gregory, doctor of medicine, Saint Louis, Missouri; Henry O. Marcy, doctor of medicine, Boston, Massachusetts; Nicholas Senn, doctor of medicine, Chicago, Illinois; George M. Sternberg, doctor of medicine, Washington, District of Columbia; J. M. Matthews, doctor of medicine, Louisville, Kentucky; W. W. Keen, doctor of medicine, Philadelphia, Pennsylvania; C. A. L. Reed, doctor of medicine, Cincinnati, Ohio; J. A. Wyeth, doctor of medicine, New York, New York; Frank Billings, doctor of medicine, Chicago, Illinois; J. H. Musser, doctor of medicine, Philadelphia, Pennsylvania; T. J. Happel, doctor of medicine, Trenton, Tennessee; Miles F. Porter, doctor of medicine, Fort Wayne, Indiana; E. E. Montgomery, doctor of medicine, Philadelphia, Pennsylvania; W. W. Grant, doctor of medicine, Denver, Colorado; H. L. E. Johnson, doctor of medicine, Washington, District of Columbia; A. L. Wright, doctor of medicine, Carroll, Iowa; William H. Welch, doctor of medicine, Baltimore, Maryland; M. L. Harris, doctor of medicine, Chicago, Illinois; Philip Marvel, doctor of medicine, Atlantic City, New Jersey, and Lewis S. McMurtry, doctor of medicine, Louisville, Kentucky, and their successors, and those who may be associated with them, are hereby made and constituted a body politic and corporate by the name American Medical Association with perpetual succession and power to take, for the purposes of its incorporation, by devise, bequest, grant, gift, purchase, or otherwise, and hold or convey, both real and personal property and transact business anywhere within the United States.

Sec. 2. That the object and purpose of such corporation shall be to promote the science and art of medicine and the public health throughout the United States.

Sec. 3. That such corporation shall have power to make by-laws, rules, and regulations, and choose officers for its government and the attainment of its purposes.

After introduction of this bill on national incorporation it was referred to Subcommittee 1 of the judiciary committee of the House.

THE BILL AS FAVORABLY REPORTED.

After considerable delay and not a little contention for the retaining of the much-to-be-desired privilege of "doing business anywhere in the United States," the bill as introduced (being regarded as unconstitutional by the subcommittee in charge) was amended (interpolation of "District of Columbia" and elimination of "United States") in the subcommittee and reported as follows:

Fifty-eighth Congress, Third Session. Sub-Committee, No. 1.
In the House of Representatives, Jan. 9, 1905.

Mr. Dwight introduced the following bill, which was referred to the Committee on the Judiciary and ordered to be printed:

A bill to incorporate the American Medical Association:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That Robert M. O'Reilly, doctor of medicine, Washington, District of Columbia; Presley M. Rixey, doctor of medicine, Washington, District of Columbia; Walter Wyman, doctor of medicine, Washington, District of Columbia; E. H. Gregory, doctor of medicine, Saint Louis, Missouri; Henry O. Marcy, doctor of medicine, Boston, Massachusetts; Nicholas Senn, doctor of medicine, Chicago, Illinois; George M. Sternberg, doctor of medicine, Washington, District of Columbia; J. M. Matthews, doctor of medicine, Louisville, Kentucky; W. W. Keen, doctor of medicine, Philadelphia, Pennsylvania; C. A. L. Reed, doctor of medicine, Cincinnati, Ohio; J. A. Wyeth, doctor of medicine, New York, New York; Frank Billings, doctor of medicine, Chicago, Illinois; J. H. Musser, doctor of medicine, Philadelphia, Pennsylvania; T. J. Happel, doctor of medicine, Trenton, Tennessee; Miles F. Porter, doctor of medicine, Fort Wayne, Indiana; E. E. Montgomery, doctor of medicine, Philadelphia, Pennsylvania; W. W. Grant, doctor of medicine, Denver, Colorado; H. L. E. Johnson, doctor of medicine, Washington, District of Columbia; A. L. Wright, doctor of medicine, Carroll, Iowa; William H. Welch, doctor of medicine, Baltimore, Maryland; M. L. Harris, doctor of medicine Chicago, Illinois; Philip Marvel, doctor of medicine, Atlantic City, New Jersey, and Lewis S. McMurtry, doctor of medicine, Louisville, Kentucky, and their successors, and those who may be associated with them, are hereby made and constituted a body politic and corporate within the *District of Columbia*, by the name American Medical Association, with perpetual succession and power to take, for the purposes of its incorporation, by devise, bequest, grant, gift, or otherwise, and hold or convey, both real and personal property and transact business.

Sect. 2. That the object and purpose of such corporation shall be to promote the science and art of medicine and the public health.

Sec. 3. That such corporation shall have power to make by-laws, rules and regulations, and choose officers for its government and the attainment of its purposes.

Sec. 4. That this Act shall be subject to alterations or repeal by Congress.

As a bill of this obviously local character was not desired, measures were taken to retain it in committee pending an effort to enlist the support of the Senate in a bill more in conformity with our understanding of the desires of the members of the Association. Fortunately Senator McComas of Maryland, who was appealed to by our friends in Washington, gave to us an attentive ear and also prompt, earnest and efficient support. February 2 the original bill as introduced into the House (see above) was introduced into the Senate by Senator McComas, *called thereafter the McComas Senate bill* No. 7040.

This bill was a little later amended by Senator McComas by the introduction of a property clause and the elimination from its phraseology of all reference to locality of incorporation. Also abbreviated statements of the addresses of the incorporators are noted.

The announcement to the chairman of the Committee on Incorporation, by telegraph, of the proposed modification of the McComas bill by introduction of a property clause, along with a request to indicate the amount of real and personal property which might be legally held in this connection by the Association, raised at once new and important questions not falling within the knowledge and purview of the committee. With the idea of gaining enlightenment and support in this matter, *the chairman hastened to Washington*, stopping at Baltimore en route, to consult with Trustee Dr. Wm. H. Welch, of that city. The difficulty of stipulating a definite legal sum, in the present prosperous condition of the Association, and the rapid increase in values, together with the apprehension that a safe legal stipulation might hinder the obtaining of incorporation, prompted both Dr. Welch and the chairman to think it wiser to omit all mention of any amount, if possible, and, if not, to place the figure at not less than $500,000. It was found, however, on arriving at Washington, that, because of the exigencies of the occasion, a five-hundred-thousand-dollar limit had been already introduced into the bill, which action was promptly sanctioned by your chairman.

It is only necessary to add that *the amended Senate bill* was not reported from the judiciary committee (therefore not printed) because of the shortness of the time at its disposal (short session), the pressing demands of more important legislative business and a desire for further consideration of this measure on the part of some members of the committee. The author of the bill (Senator McComas) labored earnestly for its adoption and expressed belief in its final success.

Thus ends the first lesson in the attempt to secure national incorporation of the American Medical Association by a special act of Congress.

The belief of the unconstitutionality of the bill on the part of the judiciary subcommittee of the House caused the failure to secure the approval of the judiciary committee of that body. Yet Judge Ray, who but a short time before was the chairman of the judiciary committee, and on which he had served for many years, giving during the last nine years thereof his attention to the constitutional questions coming before the committee, unhesitatingly declares in favor of the constitutionality of the measure.

Some members of the judiciary committee labored earnestly to secure approval of the bill as originally presented. Others declared that all bills of this character are unconstitutional and expressed strong disapproval of measures of this nature that had already become laws. Prominent members of the judiciary committee of the Senate approved the passage of the measure as amended by Senator McComas, others wished further time for thought, especially regarding the import of the high figure of property holdings.

Your attention is respectively called to the fact that bills of four forms of charters of incorporation have been brought to your attention.

1. A charter for national incorporation *within the District of Columbia*, with permission to transact business "within the United States" (see preliminary report of committee, THE JOURNAL, A. M. A., June 11, 1904, p. 1582).

2. A charter providing for national incorporation, permitting the transaction of business anywhere in the United States (see "the original bill," this report). (Also extract from petition to Congress circulated by members of the House of Delegates and officers of the A. M. A. for signatures of petitioners; see this report.)

3. A charter providing for national incorporation *within* and presumably limited to the District of Columbia, at least so far as corporate business is concerned (see House bill, as "favorably reported," here appended, still in committee.)

4. A charter providing for national incorporation without referring to geographical restrictions, and permitting the transaction of business anywhere within the United States (same as original House bill to be seen above). This bill, as already stated, was a little later amended by the placing of a limit ($500,000) on the property holdings of the organization (amended McComas bill not reported from judiciary committee).

Before determining among yourselves what form of charter to choose, permit me again to present to you in this connection the opinions of Judge Ray on state incorporation, and also on the status of affairs after national incorporation. (Extract from final report of Committee on National Incorporation, read before the House of Delegates of the A. M. A., June 6, 1904.)

JUDGE RAY'S OPINION ON STATE INCORPORATION.

"No corporation created by the act of a state legislature direct, or organized under the general statutes of such state, has the power to hold its meetings or transact its *corporate* business outside the state of its creation. Such a corporation may, however, transact *certain* business in another state, provided such other state permits foreign corporations to do business within its borders, either generally or on compliance with certain conditions, and such condition have been complied with. Sometimes the same persons incorporate in two or more states under the laws of such states respectively, and under the same name and for the same purpose. In such cases the corporations are not the same, but each is a distinct body corporate in the state in which organized. It has been suggested that a state may grant a charter allowing the corporation to have its office and transact its business in some other state or in all the states and bind the corporation. This is beyond the power of any state. If such power existed, a state might authorize its corporations or citizens to do acts in a neighboring state unlawful there under its laws and then protect the wrongdoers at home from the consequences of such acts. Public policy is opposed to the existence of such power in a state. It is not granted by the constitutional and judicial authority and interpretations have always denied its existence.

It has been suggested that a state corporation holding a meeting outside the state of its creation may there adopt certain resolution or take certain action affecting the corporate body and authorize and empower a certain committee or designated number of the members of the corporation to meet thereafter in the state where the corporation was created and ratify and confirm such action.

It is self-evident that such action would be illegal and that all acts of such committee or designated members in execution of such directions would be illegal. Such committee or designated members would be without power to act in the premises and bind the corporation for the evident reason that the action purporting to confer on them power to act in the premises was void because taken outside the state of incorporation. Again, no such power as this could in any event be delegated. To permit such action by a corporation would allow its members to hold an illegal meeting outside the state of its creation (with only a small attendance), and at such illegal meeting authorize a small minority of its members to meet in the state of incorporation and bind the whole body. It should always require the majority of a body to ratify illegal acts.

At least all should be permitted to attend and take part in the proceedings when a ratification is attempted.

Even when a State authorizes or permits the corporation of another state to do business within its borders, great uncertainty attends all the transactions of such corporation, if it avails itself of such permission or authority. It is common knowledge that most of the states are annually changing their laws relating to corporations. Changes in party control, or even in public sentiment, are almost sure to bring a change in the laws relating to corporations in most of the states. The result is that a corporation created by the laws of a state is only safe in the state of its creation, and even then, if the power to repeal, alter, or amend was reserved by the legislature (as is now generally the case), the corporation may find itself shorn of its vital powers and privileges by the legislature of the state where incorporated.

Acts of incorporation enacted by the Congress of the United States are hardly ever changed, and when a change is made it is only done at the request of the incorporated body.

JUDGE RAY'S OPINION OF THE STATUS AFTER NATIONAL INCORPORATION.

In case a charter should be obtained through Act of Congress incorporating *an* American Medical Association, such corporation, when perfected, would be distinct from a state incorporation of the same name, the one being a national incorporation deriving its powers from the Federal Government, and the other being a state incorporation, deriving its powers from the state government. The jurisdiction of the one would extend throughout the United States, that of the other throughout the state only.

The membership of the one might be the same as the membership of the other, either in whole or in part; but still, in managing the affairs of such corporation, the members, and the officers, directors or trustees thereof, elected by them, would act under a different authority. In short, the two corporations would be, legally, as distinct and independent as two individuals having the same name.

But the membership being the same, or substantially the same, the two corporations might work in perfect harmony for the attainment of the same ends and also might elect and be governed by the same officers. The state corporation would be perfectly independent of the national, both in action and in ownership of property. It could, however, by a vote of its membership, wind up its affairs and transfer its property to the national corporation, but no act of Congress or of the state legislature, or of both combined, could transfer the property of the one to the other.

Where state incorporation for the accomplishment of a certain purpose has preceded national incorporation it is always wise, on securing the latter, to continue the state organization until the national body is fully organized and in perfect working order.

The members of your special committee are clearly of the opinion at this time that all further contention in Congress relating to national incorporation should be made by the Committee on National Legislation and not by a special committee appointed for that purpose. The resources of the former are greater, more promptly available and seemingly of more emphatic scope than are those of the special committee.

Moreover, two committees laboring for a similar purpose along similar lines of action cause a useless expenditure of time, energy and money.

In conclusion, we beg to thank all those with whom the committee has been brought in contact in any manner for the uniform courtesy and loyalty of purpose always shown in the efforts to secure national incorporation. Mr. J. Johnson Ray (son of Judge Ray), who was clerk of the judiciary committee of the House during his father's chairmanship of that committee and for some time afterward, gave his personal attention at Washington and elsewhere to furthering national incorporation, rendering valuable aid along the line of our endeavor in both House and Senate. Mr. Ray's personal acquaintance with the members and the methods of business of the judiciary committees and his unselfish devotion to our cause were of great value and justly entitle him to our thanks. The vigilant and influential assistance of many of our members in Washington, D. C., gave to us much courage and hope and to the cause powerful support. The members of the House of Delegates and the officers and members of the Association, with but strikingly few exceptions, contributed the full weight of their influence and energy to the cause of national incorporation.

We also desire to express our regrets for any oversight or inadvertence that many have in any way aroused a sense of displeasure on the part of any one with whom we have been in contact or in communication during the effort to secure incorporation.

Finally, in view of the fact that not less than 10,000 persons (the great majority of whom are members of the A. M. A.) have petitioned Congress for national incorporation, and also in view of the fact that the question of constitutionality of incorporation appears to be, within certain limits, an open one on the part of competent authorities, and also because national incorporation will add dignity, efficiency and influence to the Association, we, therefore, recommend the following resolution:

Resolved, That the efforts to secure national incorporation of the American Medical Association be and hereby are continued, and that the labors relating thereto become a part of the duty of the Committee on National Legislation, and that these duties be no longer referred to a special committee appointed for that purpose.

All of which is respectfully submitted.

Joseph D. Bryant, Chairman.
H. L. E. Johnson,
Leartus Connor,
D. S. Fairchild,
C. G. Kenyon.

Dr. Harris, New York, moved that the report of the Committee on National Incorporation be referred to the Reference Committee on Medical Legislation and Political Action. Seconded.

Dr. McCormack, Kentucky, moved to amend that the thanks of the House of Delegates be tendered to Judge Ray, Mr. Ray, his son, and Senator McComas, for the active and laborious assistance they had given the committee.

Dr. Sanders, Alabama, expressed his great appreciation of the broad, and, at the same time, analytical way in which the committee had dealt with this very important question, which he regarded as one of the questions of the supremest importance to this body. He had for a long time been in favor of national incorporation. He was glad, indeed, to have the question laid so broadly and so fully before this body, as it furnished a basis from which the House of Delegates might proceed. Speaking for himself individually, he would like to see more embodied in a national charter than simply the promotion of the science and art of medicine. He believed that other objects might be embodied in a charter granted the association by the nation. But he should take pleasure and would derive profit from a close and careful study of the very able report submitted by the committee, and he would defer any final conclusions until he had devoted such study to the subject. He felt that the thanks of the House of Delegates were rightly due to the members of the committee.

The chairman then put the motion as amended, and it was carried.

Committee on Reciprocity.

REPORT REFERRED TO COMMITTEE.

The President called for the report of the Committee on Reciprocity, when Dr. W. L. Rodman, chairman, made the following verbal report:

The Committee on Reciprocity met last evening, and met a second time this morning, at the courteous request of the Council on Medical Education, as they felt as we did, that the labors of the two committees were closely akin, and we feel, in the first place, that any detailed report at this time would be premature, inasmuch as the Committee on Reciprocity will make a report later on after the plans formulated by the Council on Medical Education have been digested, have been approved, have been put into practice. In the second place, we have been waiting to hear the report of the Committee on National Incorporation. We feel that a most important question there is involved, and before making a final report we wished to hear the report of the Committee on National Incorporation. In the third place, it has been impossible for the committee to get together during the year, as one member lives in Montana, one in Colorado, one in Michigan, one in Kentucky, and one in Pennsylvania. We feel that the work of the committee would be enhanced by the appointment of a committee so distributed geographically that the members can be gotten together sometime during the year. It is almost impossible for any work to be done by correspondence alone on an important subject like this. Moreover, it is difficult to find five men who hold the same views, and in order that views may be harmonized and a unanimous report made on such an important subject, I would ask that a new committee be appointed by the President in such a way that its members can be brought together at least once during the year.

On motion of Dr. Craig, Pennsylvania, the report was referred to the Reference Committee on Medical Education.

Committee on Organization.

REPORT REFERRED TO COMMITTEE.

The President called for the report of the Committee on Organization. Dr. J. N. McCormack, chairman, spoke as follows:

I have a brief verbal report to make. The committee is glad to report to the House of Delegates that the plan of organization promulgated by the Association has been accepted practically by all of the states in the Union except those of Virginia and Maine. The work has progressed rapidly during the year, and we are now able to report that almost 1,800 of the 2,830 counties in the United States have some form of organization. In very many of the counties excellent organizations have been effected, vital forces operating for the benefit of the profession and for the people within their jurisdiction. Of course, a much larger per cent. of them are little more than organizations on paper, and much work is required to be done by the state associations, by the profession at large, before the full benefits of organization will be realized in these counties.

As chairman of the committee, it has been my pleasant duty to visit many of the states on itineraries arranged by the state associations, and I have gone from district to district, and from county to county; have had the privilege of meeting the local profession, and not only to address them on the subject of organization, but to discuss the subject with them in a practical way and to study the conditions and needs of the profession in each locality in a broad and comprehensive manner. In many of the states these meetings were well attended, usually representatives from almost every county attending some of them, and I feel sure, in a measure, that the profession of those states was reached and influenced for good.

The work is in its infancy. It has barely begun, but I am impressed with the idea that, if it can be prosecuted with vigor within the next ten years, we ought to have and can have an organized profession in this country; that our profession can be made a power not only in legislation, not only in furthering our own interests, but in reaching out and benefiting the people of this great country, thus making the profession a power for usefulness, a power for the protection of the people of this land which will not be rivaled by any other that is in existence.

I submit this brief verbal report, because it is one that is in progress, one that will not be completed for many years to come; but I hope, before this House of Delegates adjourns, that measures will be taken in some manner to carry on the work. I expect to retire from this work myself at the conclusion of the session, and I hope in some way that steps will be taken by the Association to prosecute the work with added vigor in every one of the states in the union, because my experience has been that those states which are the least organized, so imperfect in their work, are the ones in which the most beautiful work can be done at present. The older states, the better organized states, are the most fruitful field for work at the present time, and I believe that in some way it will be the wisdom of this House of Delegates that this work should be carried on until we have an organized profession within the United States, a profession so united as to be able to give voice to its opinion in legislative and public affairs, so that it may be of benefit not only to every physician within the broad limits of this country, but continued until we are able to include every competent and modern physician within the reach of every community in every county and state in this land. (Applause.)

On motion the report was referred to the proper committee.

Report of Scientific Exhibit Committee Postponed.—The report of the Committee on Scientific Exhibit was called for and passed in the absence of the members of that committee. (See page 277.)

Amendments to By-Laws.

Other amendments are on pages 258, 275, 278, 280, 283, 285.

FOR CLOSER CONTROL OF SESSION ARRANGEMENTS.

Under the head of "New Business," Dr. Harris, New York, offered the following resolution:

Resolved, That the Reference Committee on Amendments to the Constitution and By-Laws be requested to report a by-law at the session of this House of Delegates on Wednesday next which shall place all arrangements for the annual session, including the place of meeting for the House of Delegates, the General and Section Meetings and the Exhibition Hall, under the immediate charge of the Board of Trustees, and that the Board of Trustees shall pay the current expenses of the annual session and be empowered to appoint a local committee of arrangements which shall report to the Board of Trustees.

It was moved that the resolution be referred to the Reference Committee on Amendments to the Constitution and By-Laws. Seconded.

After some discussion, which was participated in by Drs. Billings, Harris and McCormack, Dr. McCormack moved to amend by striking out the words "be requested to report a by-law" and substituting the words "consider the advisability of reporting a plan," so that the committee may report back in the form of an amendment to the Constitution.

Dr. Harris accepted the amendment, and the motion as amended was carried, and the report was referred to the Reference Committee on Amendments to the Constitution and By-Laws. (See page 279.)

TO ALLOW CHANGE OF SESSION PLACE.

Dr. T. J. Happel, Tennessee, a member of the Board of Trustees, presented an amendment to the by-laws, as follows:

To amend Section VII of the By-Laws, Chapter 10, page 20, by adding at the end of the section: "If, after the place of session has been selected, it becomes apparent that satisfactory transportation rates can not be secured, and the Association can not be properly entertained and cared for, the Committee on Transportation and Place of Session be and are hereby authorized to change the said place of session; but said change shall not be made later than three months preceding the date fixed for the annual session."

He said that, with no reflection on the place of session in Portland, it was evident that as this Association grows it is more and more difficult for some places to entertain the members, as the hotel accommodations were utterly inefficient, and an unsuitable place might be selected by the House of Delegate under pressure, without due investigation. The object of this amendment to the By-Laws was to provide that when this was self-evident, it could be ascertained through the Secretary and Transportation Committee in dealing with the different railroads, because it would provide that if satisfactory transportation rates could not be secured, this would be one of the grounds for changing the place of session. This could work no harm, and it might do good along that line, and it would doubtless leave the matter of transportation where the members could get satisfactory rates and it would enable them further to secure satisfactory hotel rates, and the members would not, to use a trite expression, be "done up" in hotel rates, or in railroad transportation.

On motion the amendment was referred to the Reference Committee on Constitution and By-Laws. (See page 279.)

Resolution Commending U. S. Public Health Service.

PRESENTED AND REFERRED TO COMMITTEE. (See page 277.)

Dr. C. J. Smith, Oregon, presented a preamble and resolution, and on motion they were referred to the Reference Committee on Medical Legislation and Political Action to be reported back to the House of Delegates. (See page 277.)

WHEREAS, By act approved July 1, 1902, Congress enlarged the functions and powers of the U. S. Marine Hospital Service and changed its name to the U. S. Public Health and Marine Hospital Service; and

WHEREAS, The good results of said legislation have been manifested by the scientific work of the Hygienic Laboratory in its broadened organization, by the coördination of the service with the state boards of health in matters of hygiene and sanitary science, and by successful efforts against infectious and contagious disease; *therefore, be it*

Resolved, That the American Medical Association *recommends* to Congress that said service be aided in every proper manner in the prosecution of its important duties, and that in its efforts to protect and improve the public health it be strengthened in any manner necessary to promote its efficiency and character as the national health organization.

Committee to Examine Methods of Keeping Minutes.

Dr. Sanders, Alabama, moved that a committee of five be appointed by the chair, whose duty it shall be to consider the method according to which the minutes of this body are kept, and to report thereon, accompanying their report by such recommendations as they may see fit to make.

His object in submitting this motion was to endeavor to reach a plan of keeping the minutes in such a way as to make them full and complete, and, at the same time, accessible to the members of the Association at any time. He felt persuaded that a plan could be devised by which this could be accomplished and which would receive not only the endorsement of the House of Delegates, but the endorsement of its Secretary. He believed the work could be made easier and more complete and agreeable to the Secretary. If such a committee should be appointed it could bring in its report and if it did not suit the members of the House of Delegates they could reject it. If the report, however, contained recommendations which the House of Delegates approved, then the work of the house might be facilitated as a legislative body.

The motion was seconded by Dr. Morris, Alabama:

The President put the motion, and as there was some doubt about its being carried, a division was called for.

There were 25 votes in favor of the motion and 25 opposed to it.

As there was a tie vote, the President was asked to cast the decisive vote, and he did so in favor of the motion, and it was declared carried (see below, this page, and page 284).

Resolution Endorsing Medical Practice Law for Alaska.

REFERRED TO COMMITTEE. (See page 277.)

Dr. C. J. Smith, Oregon, offered a resolution by request asking the House of Delegates to endorse efforts for the profession in Alaska to obtain legislation regulating medical practice, which was referred to the Reference Committee on Medical Legislation and Political Action. (See page 277.)

New York Asks Reapportionment.

REFERRED TO COMMITTEE. (See page 285.)

Dr. Harris, New York, said that before the next annual session of the American Medical Association the medical profession of the state of New York will have united on the recommendation of the joint committee; and, therefore, at a previous session, in the section of the By-Laws which refers to the number of delegates to which each state is entitled, and which is subject to change every three years, an exception was made in regard to the state of New York. He should like to have the Reference Committee on Constitution and By-Laws report for the year 1906 an exception for the state of New York in order that they might come to the next annual session with the full delegation. He moved that this matter be referred to the Reference Committee on Constitution and By-Laws. Seconded.

The Secretary stated that New York should have one delegate for each 500 members. It was not apportioned, but was left that way according to the minutes of last year.

The motion was carried and the matter was so referred.

Amendments to the By-Laws.

NOTE.—These amendments, according to the By-Laws, will lie over until the next session. Other amendments proposed are on pages 258, 274, 278, 280, 283, 285.

Dr. George F. Cott offered the following amendments:

DETAILS IN METHOD OF BALLOTING.

The following amendment is proposed to be added to the end of Section 2, Chapter VII, of the By-Laws, viz.:

In balloting for vice-presidents, on each ballot, each member for whom the vote is cast must be designated as either "first vice-president," or "second vice-president," or "third vice-president," or "fourth vice-president."

The following amendment is proposed to be added to the end of Section II, Chapter 8, of the By-Laws, viz.:

And this rule shall apply to the other vice-presidents, each vice president taking the place vacated by the next preceding vice-president.

APPORTIONMENT OF DELEGATES.

The following amendments are proposed to Section 3, Chapter IV, of the By-Laws, viz.:

In second line for "1903" substitute '1905," and strike out the word "third" before the word "year."

In tenth line, for the words "three years," substitute the word "year."

Strike out the remainder of the section after the word "members" in the seventeenth line.

Committee Appointed to Examine Method of Keeping Minutes.

The President announced the following as members of the committee created by Dr. Sanders' motion: Dr. W. H. Sanders, chairman; Drs. W. S. Foster, J. F. Percy, Duncan Campbell, and Frank Paschal. (See page 284.)

Resolutions of Section on Practice Endorsing Council on Pharmacy.

REFERRED TO COMMITTEE. (See page 276.)

Dr. Wells, Illinois, presented resolutions from the Section on Practice of Medicine, which were referred to the Committee on Reports on Officers.

WHEREAS, The Medical profession of the United States has too long neglected to recognize the harm to the public, to the members of the profession, and to scientific medicine, from the nostrum evil; and,

sense of a directory and would be of great aid in effecting more complete organization of the profession. We believe it would be a source of income to the Association, and, although we believe that the Association should not compete in commercial enterprises for financial gain, we look on the publication of a directory as an object quite as free from commercialism as the publication of The Journal.

(c) We, therefore, indorse the action of the Board of Trustees in the purchase of the Standard Directory and recommend that the board publish a complete directory on the plan outlined by them.

Furthermore, we recommend that the Trustees may also furnish any part of this directory to state and county societies on application.

Dr. J. N. McCormack, Kentucky, moved the adoption of the recommendations of the committee. Seconded by Dr. Sherrill.

After some discussion, Dr. Eugene Smith, Michigan, moved that that portion of the report which relates to the publication of a medical directory by the Association be referred to the Board of Trustees to report next year. Seconded by Dr. Ferguson, New York.

After further discussion, which was participated in by Drs. Smith, Michigan; Ferguson, New York; Happel, Tennessee; Bacon, Chicago; Harris, New York, Dr. Ferguson withdrew his opposition to the original motion.

Dr. G. Garland Sherrill, Kentucky, moved as a substitute that so much of the report as pertains to the recommendations of the committee be adopted, striking out all that relates to the purchase of a medical directory. Seconded.

After discussion by Drs. Harris, Illinois; Chassaignac, Louisiana; Baldwin, Illinois, there were calls for the previous question, and, as there was some doubt as to what this really was, the Chairman stated that the original motion of Dr. McCormack was to adopt the recommendations of the committee; that Dr. Sherrill had moved as a substitute that the recommendations of the committee be concurred in, with the exception of that part which relates to the purchase of a directory.

With this explanation, the President then put the substitute, and, as there was some doubt manifested as to whether it was carried or not, the roll was called by the Secretary, with the result that there were 27 votes cast in favor of the substitute and 56 against it.

The President thereon declared the substitute lost.

Dr. Harris, New York, said that, inasmuch as there had been a free discussion on the question as to whether the Association should publish a medical directory or not, he desired now to move the previous question on the adoption of the report of the committee as read, which was seconded and carried, and the recommendations of the committee were adopted.

Dr. Billings then read the final part of the report of the committee which pertains to national incorporation.

We recommend that this part of the report be referred to the Committee on National Legislation, as advised by the Committee on National Incorporation.

Frank Billings, Chairman,
Thomas D. Coleman,
C. J. Smith,
George W. Guthrie,
Phillip Mills Jones.

Dr. Sherrill, Kentucky, moved that the report of the committee be now adopted as a whole, which was seconded and carried.

Reference Committee on Legislation.

REPORT ADOPTED AND RECOMMENDATION APPROVED.

The next order was the report of the Reference Committee on Medical Legislation and Political Action, which was read by the chairman, Dr. Walter B. Dorsett, Missouri, as follows:

Portland, Ore., July 12, 1905.

To the President and House of Delegates of the American Medical Association.

Gentlemen: Your committee to whom has been referred the following reports respectfully recommends as follows::

PUBLIC HEALTH RESOLUTION ADOPTED.

The resolution with reference to the United States Public Health and Marine Hospital Service. (See page 275.) Approved and adoption recommended.

ALASKA PRACTICE LAW RESOLUTION APPROVED.

The resolution with reference to Alaska (see page 275) asking for recognition and sympathy from this Association. pproved and adoption recommended.

NATIONAL INCORPORATION REFERRED TO LEGISLATION COMMITTEE.

After reviewing the report (see page 259) of the Committee on National Incorporation, Dr. Bryant, chairman, we are impressed with the amount of work which has been done by this committee and for which we feel the Association should be duly grateful. We concur in the resolution offered by the committee, namely, "That the efforts to secure National Incorporation of the American Medical Association be and hereby are continued and that the labors relating thereto become a part of the duty of the Committee on National Legislation, and that these duties be no longer referred to a special committee appointed for that purpose." We recommend the adoption of the report of the committee as made.

WORK OF NATIONAL LEGISLATION COMMITTEE PRAISED.

Your committee reports that the labors that devolved on the Committee on National Legislation were many and arduous, and we heartily approve of their action.

PERMANENT LEGISLATION BUREAU ADVISED.

With reference to the recommendation pertaining to a Bureau for Medical Legislation, which is to be located in Chicago under the immediate direction of the Secretary of the Association, who, in turn, is to act under the general supervision of the committee, your committee reports that we believe that this will be a step in the right direction, and therefore recommend it for the specific reasons as set forth by the committee.

Walter B. Dorsett, Chairman,
Lewis C. Morris,
W. J. Miller.

On motion of Dr. A. E. Baldwin, Illinois, the report was adopted as read.

Dr. Phillip Mills Jones, California, moved the adoption of the recommendations contained in the report of the committee. Seconded and carried.

Report of the Committee on Scientific Exhibit.

The President called for the report of the Committee on Scientific Exhibit, and it was read by the chairman, Dr. Frank B. Wynn.

A brief retrospect of the work of the Scientific Exhibit may be offered. Inaugurated in 1900, the present makes the sixth annual exhibit. During this period the contributions by societies and institutions exhibiting more than once are:

Exhibiting 6 times: Indiana State Medical Association.

Exhibiting 4 times: Johns Hopkins University, Indiana Medical College, Northwestern University Medical School, and the Cincinnati Hospital.

Exhibiting 3 times: Government Hospital for Insane, U. S. Marine Hospital Service, U. S. Army Med. Museum, College of Physicians (Chicago), Rush Medical College, Harvard Medical School, Medico-Chirurgical College, and the Wisconsin State Medical Association.

Exhibiting 2 times: U. S. Bureau of Animal Industry, St. Peter Hospital for Insane, University of Texas, Boston University Medical School, Syracuse University, McGill University, Pepper Laboratory, Lakeside Hospital, and the Missouri State Medical Association.

Some of those exhibiting but once have compensated in a measure for the lack of frequency by the excellence of material presented. Notable among this number are the Jefferson Medical College, University of Pennsylvania, Minnesota State University, Phipps Institute, Pennsylvania Hospital, Philadelphia Hospital and others.

The total number of exhibits presented respectively by the states and by the U. S. Government is shown below:

[illegible] nois, 13; U. S. Government, 13; New [illegible] Ohio, 9; Massachusetts, 8; Minnesota, 5; [illegible] 4; Missouri, 3; Iowa, 2; Texas, 2; [illegible] Kentucky, 1; California, 1; New Jersey, [illegible]

By years the number of exhibits is as follows:

In 1900, 16 exhibitors; in 1901, 29 exhibitors; in 1902, 20 exhibitors; in 1903, 24 exhibitors; in 1904, 24 exhibitors; in 1905, 16 exhibitors.

It will be observed that the largest exhibit was at St. Paul, and the smallest at this session. That the present exhibit should be small is not surprising when the remoteness of the session place is taken into account. The expense of transportation and risk in sending exhibits so far, have made it extremely difficult to secure participation. Nevertheless, an exceedingly creditable showing has been made. A detailed report will be furnished for publication at a future date.

WHEREAS, The Board of Trustees of the Association has created a body, known as the Council on Pharmacy and Chemistry, to investigate and pass on the various non-official medicinal preparations placed on the market: therefore, be it

Resolved, That we, individually and collectively, heartily endorse the action of the Board of Trustees, and earnestly urge every physician to give this effort of reform his hearty support.

Resolved, That the Board of Trustees be requested to effect the removal of the remaining nostrum advertisements from the pages of THE JOURNAL of the American Medical Association.

Resolved, That the representatives of this Section to the House of Delegates be instructed to present these preambles and resolutions to the House of Delegates, with the recommendation of this Section for their endorsement, and that a copy of the same be sent to the president and secretary of each constituent society of the American Medical Association.

Commendation of Popular Magazines for War on Nostrums.

Dr. McCormack, Kentucky, moved in connection with the above resolutions that the cordial thanks of the House of Delegates be tendered to the *Ladies' Home Journal*, to *Everybody's Magazine*, to *Collier's* and other great literary publications which have taken up a fight against nostrums.

Dr. Jones, California, moved that when the House adjourned, it adjourn to meet at 10 o'clock Wednesday morning. Seconded.

Dr. Bacon, Illinois, moved to amend that when the House adjourns it adjourn to meet at 2 o'clock Wednesday afternoon.

The amendment was seconded, accepted, and the motion as amended was put and carried.

On motion, the House of Delegates then adjourned until 2 p. m. Wednesday.

Fourth Meeting—July 12

The House of Delegates met at 2 p. m. and was called to order by President McMurtry.

The minutes of the previous meeting were read and approved.

Committee on Reports of Officers.

REPORTS REFERRED TO VARIOUS COMMITTEES.

The President called for the report of the Committee on Reports of Officers, which was read by Dr. Frank Billings, Chicago.

Discussion of Address to Delegates by President Musser.

Your committee recommends that the suggestions of the President (see page 255) be referred to the respective committees to which they should naturally go.

1. The suggestion for the possible improvement of scientific work of the sections to the Reference Committee on Sections and Section Work (see pages 280, 282, 283.)

On motion of J. Garland Sherrill, Kentucky, the suggestion was so referred.

2. The suggestion as to place of holding the annual sessions to the Committee on Transportation and Place of Session (see page 279).

On motion of Dr. A. E. Baldwin, this part of the report was concurred in and the suggestion was so referred.

The committee recommends that the address of the President be printed in THE JOURNAL.

It was moved and seconded that this recommendation be concurred in. Carried. (It is so printed. See page 255.)

Discussion of Report of the Secretary.

1. We recommend that the request of the Secretary of the American Electro-Therapeutic Association for the establishment of a Section on Electrotherapeutics, as quoted in the letter to Secretary Simmons (see page 256), be referred to the Committee on Sections and Section Work.

RECORD SYSTEMS APPROVED.

2. We recommend the plan of organization with the system of reporting of the names of newly elected, deceased, and recently resigned, or suspended members, of the county societies by the secretary of the county to the secretary of the state society and the prompt transmission of the information by the latter to the office of the General Secretary. We recommend, too, that the plan of transmission of this information as indicated by the General Secretary, as well as the maintenance of a permanent record in the form of a card index of the members of the county, state and national associations, should be continued.

COUNCILORS' BULLETIN APPROVED.

3. We concur in and recommend that the suggestion of the Secretary for the establishment of a Councilors' Bulletin be carried out.

BIOGRAPHICAL CARD INDEX APPROVED.

4. We also recommend the Biographical Card Index which has been established by the Secretary, and recommend that the work be continued.

5. We recommend that the report of the Secretary be published in THE JOURNAL. (It is so printed. See page 256.)

Dr. E. Eliot Harris, New York, moved the adoption of the report of the committee on the Secretary's report. Seconded by Dr. C. S. Bacon, Chicago, and carried.

Discussion of Board of Trustees' Report.

TRUSTEES PRAISED FOR FAITHFUL AND JUDICIOUS MANAGEMENT.

1. We congratulate the Association on the excellent financial condition shown and recommend a vote of thanks to the Board of Trustees for the judicious, conservative and wise management of the property and finances of this organization. We also recommend that the report be published in THE JOURNAL. (It is so printed. See page 263.)

COUNCIL ON PHARMACY APPROVED.

2. Report of the Board of Trustees on the creation of the Council of Pharmacy and Chemistry (see page 265) is, in the opinion of your committee, the most important and effective measure ever undertaken by this Association to rid the profession of the abuse of the nostrum evil. The personnel of the council is of such a character as to create a feeling of confidence that the proposed work will be done thoroughly, conscientiously and justly. The publication of the results of the work of the council in book form with annual editions will afford a source of information of inestimable value to the profession.

3. Therefore, we recommend that the House of Delegates indorse the action of the Board of Trustees in the creation of the Council on Pharmacy and Chemistry; that the Trustees be requested to devise a plan through which the council may be made permanent, and that the Trustees request the Secretary of Agriculture of the U. S. Government to give the Council on Pharmacy and Chemistry recognition by authorizing the Bureau of Chemistry to co-operate with the council in its work.

4. We indorse the work already performed by the Council on Pharmacy and Chemistry in the formulation of rules governing the mode of selection of articles to be investigated and the publication of results already obtained.

5. We recommend the publication in book form of a list of the preparations not in the Pharmacopeia, that are approved by the Council on Pharmacy and Chemistry.

MISSOURI, PRACTICE OF MEDICINE AND JONES' RESOLUTIONS FAVORED.

6. We indorse the underlying sentiments of the preamble and resolutions presented by the committee of the State Medical Society of Missouri (see page 262), of those presented by the Section on Practice of Medicine (see page 275), and and of the resolution presented by Dr. Jones, of California (see page 263).

DECLARED REPREHENSIBLE TO USE NOSTRUMS.

7. We recommend the adoption of the following motions:

Resolved, That it is reprehensible for the members of this organization to prescribe or use nostrums, and that we request the Board of Trustees not to advertise any nostrum in the columns of THE JOURNAL.

JOURNAL ADS. SHOULD CONTAIN FORMULAS.

Resolved, That we request the Board of Trustees hereafter to insert in THE JOURNAL with each advertisement the formulas of remedies which may have been favorably passed on by the Council of Pharmacy and Chemistry for advertisement..

On motion, these recommendations of the committee were concurred in.

BLUE BOOK AND DIRECTORY AUTHORIZED.

8. (a) Your committee is unanimous in the opinion that a Blue Book, that is, a directory containing the names *only* of the members of the organization, would not meet the needs of the members, and that a directory of that character would be looked on by those members of the profession outside of the organization in the nature of a boycott of the outsiders and would, therefore, be prejudicial to the best interests of the Association and would do much to defeat further organization and increase of membership.

(b) On the other hand, we are of the unanimous opinion that the publication annually of a National Medical Directory of the names of all licentiates, with an abbreviated biography of each individual, with the members of the organization differentiated by a form of type or some other device which would afford a directory with the facilities which THE JOURNAL office commands, of accurate data, would be of great value in the sense of a directory and would be of great aid in effecting more complete organization of the profession. We believe it would be a source of income to the Association, and, although we believe that the Association should not compete in commercial enterprises for financial gain, we look on the publication of a directory as an object quite as free from commercialism as the publication of THE JOURNAL.

(c) We, therefore, indorse the action of the Board of Trustees in the purchase of the Standard Directory and recommend that the board publish a complete directory on the plan outlined by them.

Furthermore, we recommend that the Trustees may also furnish any part of this directory to state and county societies on application.

Dr. J. N. McCormack, Kentucky, moved the adoption of the recommendations of the committee. Seconded by Dr. Sherrill.

After some discussion, Dr. Eugene Smith, Michigan, moved that that portion of the report which relates to the publication of a medical directory by the Association be referred to the Board of Trustees to report next year. Seconded by Dr. Ferguson, New York.

After further discussion, which was participated in by Drs. Smith, Michigan; Ferguson, New York; Happel, Tennessee; Bacon, Chicago; Harris, New York, Dr. Ferguson withdrew his opposition to the original motion.

Dr. G. Garland Sherrill, Kentucky, moved as a substitute that so much of the report as pertains to the recommendations of the committee be adopted, striking out all that relates to the purchase of a medical directory. Seconded.

After discussion by Drs. Harris, Illinois; Chassaignac, Louisiana; Baldwin, Illinois, there were calls for the previous question, and, as there was some doubt as to what this really was, the Chairman stated that the original motion of Dr. McCormack was to adopt the recommendations of the committee; that Dr. Sherrill had moved as a substitute that the recommendations of the committee be concurred in, with the exception of that part which relates to the purchase of a directory.

With this explanation, the President then put the substitute, and, as there was some doubt manifested as to whether it was carried or not, the roll was called by the Secretary, with the result that there were 27 votes cast in favor of the substitute and 56 against it.

The President thereon declared the substitute lost.

Dr. Harris, New York, said that, inasmuch as there had been a free discussion on the question as to whether the Association should publish a medical directory or not, he desired now to move the previous question on the adoption of the report of the committee as read, which was seconded and carried, and the recommendations of the committee were adopted.

Dr. Billings then read the final part of the report of the committee which pertains to national incorporation.

We recommend that this part of the report be referred to the Committee on National Legislation, as advised by the Committee on National Incorporation.

FRANK BILLINGS, Chairman,
THOMAS D. COLEMAN,
C. J. SMITH,
GEORGE W. GUTHRIE,
PHILLIP MILLS JONES.

Dr. Sherrill, Kentucky, moved that the report of the committee be now adopted as a whole, which was seconded and carried.

Reference Committee on Legislation.

REPORT ADOPTED AND RECOMMENDATION APPROVED.

The next order was the report of the Reference Committee on Medical Legislation and Political Action, which was read by the chairman, Dr. Walter B. Dorsett, Missouri, as follows:

PORTLAND, ORE., July 12, 1905.

To the President and House of Delegates of the American Medical Association.

Gentlemen: Your committee to whom has been referred the following reports respectfully recommends as follows::

PUBLIC HEALTH RESOLUTION ADOPTED.

The resolution with reference to the United States Public Health and Marine Hospital Service. (See page 275.) Approved and adoption recommended.

ALASKA PRACTICE LAW RESOLUTION APPROVED.

The resolution with reference to Alaska (see page 275) asking for recognition and sympathy from this Association. Approved and adoption recommended.

NATIONAL INCORPORATION REFERRED TO LEGISLATION COMMITTEE.

After reviewing the report (see page 259) of the Committee on National Incorporation, Dr. Bryant, chairman, we are impressed with the amount of work which has been done by this committee and for which we feel the Association should be duly grateful. We concur in the resolution offered by the committee, namely, "That the efforts to secure National Incorporation of the American Medical Association be and hereby are continued and that the labors relating thereto become a part of the duty of the Committee on National Legislation, and that these duties be no longer referred to a special committee appointed for that purpose." We recommend the adoption of the report of the committee as made.

WORK OF NATIONAL LEGISLATION COMMITTEE PRAISED.

Your committee reports that the labors that devolved on the Committee on National Legislation were many and arduous, and we heartily approve of their action.

PERMANENT LEGISLATION BUREAU ADVISED.

With reference to the recommendation pertaining to a Bureau for Medical Legislation, which is to be located in Chicago under the immediate direction of the Secretary of the Association, who, in turn, is to act under the general supervision of the committee, your committee reports that we believe that this will be a step in the right direction, and therefore recommend it for the specific reasons as set forth by the committee.

WALTER B. DORSETT, Chairman,
LEWIS C. MORRIS,
W. J. MILLER.

On motion of Dr. A. E. Baldwin, Illinois, the report was adopted as read.

Dr. Phillip Mills Jones, California, moved the adoption of the recommendations contained in the report of the committee. *Seconded and carried.*

Report of the Committee on Scientific Exhibit.

The President called for the report of the Committee on Scientific Exhibit, and it was read by the chairman, Dr. Frank B. Wynn.

A brief retrospect of the work of the Scientific Exhibit may be offered. Inaugurated in 1900, the present makes the sixth annual exhibit. During this period the contributions by societies and institutions exhibiting more than once are:

Exhibiting 6 times: Indiana State Medical Association.

Exhibiting 4 times: Johns Hopkins University, Indiana Medical College, Northwestern University Medical School, and the Cincinnati Hospital.

Exhibiting 3 times: Government Hospital for Insane, U. S. Marine Hospital Service, U. S. Army Med. Museum, College of Physicians (Chicago), Rush Medical College, Harvard Medical School, Medico-Chirurgical College, and the Wisconsin State Medical Association.

Exhibiting 2 times: U. S. Bureau of Animal Industry, St. Peter Hospital for Insane, University of Texas, Boston University Medical School, Syracuse University, McGill University, Pepper Laboratory, Lakeside Hospital, and the Missouri State Medical Association.

Some of those exhibiting but once have compensated in a measure for the lack of frequency by the excellence of material presented. Notable among this number are the Jefferson Medical College, University of Pennsylvania, Minnesota State University, Phipps Institute, Pennsylvania Hospital, Philadelphia Hospital and others.

The total number of exhibits presented respectively by the states and by the U. S. Government is shown below:

Pennsylvania, 14; Illinois, 13; U. S. Government, 13; New York, 13; Indiana, 10; Ohio, 9; Massachusetts, 8; Minnesota, 5; Maryland, 4; Wisconsin, 4; Missouri, 3; Iowa, 2; Texas, 2; Canada, 2; Louisiana, 1; Kentucky, 1; California, 1; New Jersey, 1; Kansas, 1; Virginia, 1.

By years the number of exhibits is as follows:

In 1900, 16 exhibitors; in 1901, 29 exhibitors; in 1902, 20 exhibitors; in 1903, 24 exhibitors; in 1904, 24 exhibitors; in 1905, 16 exhibitors.

It will be observed that the largest exhibit was at St. Paul, and the smallest at this session. That the present exhibit should be small is not surprising when the remoteness of the session place is taken into account. The expense of transportation and risk in sending exhibits so far, have made it extremely difficult to secure participation. Nevertheless, an exceedingly creditable showing has been made. A detailed report will be furnished for publication at a future date.

The following is the program of demonstrations arranged for Thursday afternoon, July 13:

PROGRAM OF DEMONSTRATIONS.

1. (a) The American Unit for Standardizing Diphtheria Antitoxin. (b) Bacteriologic Impurities in Vaccine Virus. M. J. Rosenau, Washington, D. C.
2. Demonstration of Specimens Illustrative of Septic Endocarditis and Other Pathologic Conditions. Wm. Ophuls, San Francisco.
3. Biology of the Organism of Actinomycosis (J. W. Wright). Presented as a lantern slide demonstration by H. A. Christian, Boston.
4. Miscellaneous Demonstrations. James Carroll, Washington, D. C.
5. Anatomic Series of Brain Sections Stained by Weigert-Pal Method. Burton D. My [illegible]
6. (a) Methods of Teaching [illegible] as conducted by Prof. W [illegible] of Physiologic Apparatus.
7. Models of Lawrence Experi [illegible] has. Harrington, Boston.
8. Other Demonstrations.

HISTORIC EXHIBIT.

9. Demonstration of an Exhibit Illustrating the Life and Work of John S. Bobbs, the First to Perform Cholecystotomy. L. H. Dunning, Indianapolis.

[The above will include besides the presentation of relics, photographs, etc., the patient on whom Dr. Bobbs performed the operation. This interesting elderly lady will be at the Scientific Exhibit Room, basement of the Atkinson School Building, where those interested may see her.]

A new feature, introduced this year for the first time, is historical in character. Two such exhibits have been presented. One relates to the life of William T. G. Morton, the discoverer of surgical anesthesia; the other is illustrative of the life and work of Dr. John S. Bobbs and includes portraits, letters and addresses; the original article describing the operation, medical journal articles, and the patient on whom the operation was performed, Mrs. Z. Burnsworth, who was sent to the session by the Medical College of Indiana, which Dr. Bobbs was largely instrumental in founding.

It may be stated at this time that similar historical exhibits have been already assured for next year, showing the evolution of modern surgery; also pharmacy, and illustrative of the lives of N. S. Davis and Ephraim McDowell. The historical phase of medical life is too much neglected. Should not the medical profession see to it more faithfully, that her own, who have wrought and achieved for the world's advancement, are not forgotten? The discoverers and heroes of our profession are the workers and heroes of peace, but their services are no less valuable than those rendered by the heroes of war. This historical exhibit offers an opportunity to accord to them a just meed of praise; to enhance and authenticate medical history and to hold up for the emulation of our successors the highest professional ideals.

Frank B. Wynn, Director.

Dr. Walter B. Dorsett, Missouri, moved that the report be adopted, and that a vote of thanks be extended to Dr. Wynn for the same. Seconded and carried.

Reference Committee on Education.

REPORT OF COUNCIL APPROVED.

Dr. George M. Kober, chairman, read the report of the Committee on Medical Education, as follows:

Portland, Oregon, July 12, 1905.

To the President and Members of the House of Delegates.

Gentlemen:—The Reference Committee on Medical Education most heartily commends the work and indorses the broad general principles outlined in the report of the Council on Medical Education, and feels confident that the future work of the council will ultimately secure ideal standards. To this end your committee recommends that the Board of Trustees provide the necessary machinery to carry out the recommendations submitted by the council.

Your committee is of the opinion that it is very desirable for the council to establish a minimum standard of entrance requirements and a minimum standard for medical education which may gradually be improved on by time and experience until the ideal standard outlined by the council is reached.

Inasmuch as the Association of American Medical Colleges and the American Confederation of Reciprocating State Medical Examining and Licensing Boards have recently adopted a minimum standard of medical education, consisting of a four years' course, each year of at least thirty weeks, with thirty hours per week of actual college work (exclusive of holidays), your committee is of the opinion that this standard should be given preference as a starting point; a four years' course of seven months each, particularly as many of the state medical examining boards have made an eight months' course obligatory.

Your committee believes that, in addition to a well-balanced medical education, the welfare of the future practitioner demands that he should have some business training, a broad conception of the principles of medical ethics and of the value of medical organization in the promotion of scientific work, social intercourse with his professional brethren, medical legislation and political action.

Your committee recommends, therefore, that in the construction of a standard medical curriculum by the council provisions be made for a distinct and complete course on business methods for the practitioner, on medical ethics and the value of medical organizations.

Respectfully submitted,
Chas. E. Woodruff,
J. N. McCormack,
W. A. Jayne,
Geo. M. Kober, Chairman,
John C. Munro.

It was moved and seconded that the report be adopted. Carried.

Dr. Jones, California, moved that the recommendations contained in the report of the committee be adopted. Seconded and carried.

Reference Committee on Amendments.

The President called for the report of the Reference Committee on Amendments to the Constitution and By-laws.

This report was presented by the chairman, Dr. A. R. Craig, as follows:

The sense of the committee is unanimous in urging that the House of Delegates make only such changes in the Constitution and By-laws of the Association as are necessary for clearness of diction or are vitally important for the better government of the Association.

METHOD OF NOMINATIONS AND ELECTIONS.

We, therefore, recommend the adoption of the amendment proposed last year and lying over to this session:

Striking Out Book II, Chapter VII, Section 1: "Nominations for all officers, except the Treasurer, shall be made by ballot, and ten votes shall be necessary to constitute a nomination. As many ballots *may be taken and as many nominations made as the house desires.* The Treasurer shall be nominated by the Board of Trustees."

Substituting therefor:

Order of Business.—*Book II, Chapter VII, Section 1 (page 7 as revised)*: "Nominations for office, except that of Treasurer, shall be made orally, but no nominating speech shall exceed two minutes in length. Any nominee receiving a majority of the votes cast shall be declared elected. The Treasurer shall be nominated by the Board of Trustees."

Dr. Harris, New York, moved that this part of the report of the committee which relates to Amendments to the By-Laws be adopted. Seconded and carried.

The committee deems it inexpedient to adopt the following:

Section 1, Chapter IV: Striking out Section I and inserting in lieu thereof the following: "*Time of Elections.*—The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the session."

Section 3, Chapter IV: Striking out said section and inserting in lieu thereof the following: "Nominations for President shall be by ballot. All other officers shall be nominated by a committee of seven, representing the various geographical divisions of the country as nearly as may be."

Chapter VIII, Section 1: "That the name of the Section on Pharmacology be changed to the Section on Pharmacology and Therapeutics."

Dr. Billings, Illinois, moved the adoption of that part of the report of the committee. Seconded and carried.

The committee feels that the present time for holding elections should hold for some years at least and thinks that a change at this time would be premature.

The changes referred to in the second proposed amendment that is reported adversely is a second effort to right Book II, Chapter II, Section 1.

NAME OF SECTION ON PHARMACOLOGY.

The attached definition renders the third amendment unnecessary.

While the use of the term pharmacology has been confined by some authors to the action of drugs, academically called pharmacodynamics, considered etymologically it is the broadest and most comprehensive term that can be applied to the science of drugs. This is also the original application of the term by German and French authorities, such as Husemann and Littra, respectively, who define pharmacology as comprising practically all the sciences of material medicinal agents, namely, materia medica, pharmacodynamics, pharmacy, pharmaceutic chemistry, and pharmacotherapeutics, or of drug therapy, as distinguished from other agents used in the treatment of disease. The title also has been adopted for that section of the American Medical Association formerly called the Section on Materia Medica, Pharmacy and Therapeutics. It seems to represent all the different phases of the question to be considered better than any other title suggesting itself. Under this heading we propose to publish matter of interest on the broad subject of pharmacology as included in this definition.

Dr. Billings, Illinois, moved the adoption of this part of the report of the committee. Seconded.

Dr. John W. Foss, from the Section on Pharmacology, said, in reference to the last recommendation of the committee, that the Section on Pharmacology favored adding the word Therapeutics to the name of the section, and at the session of the Association held last year it was voted to add the name Therapeutics to Pharmacology, and this morning the same vote was taken by the section. He said that the omission of the word Therapeutics from the name of the section has a tendency to reduce the efficacy and efficient work of that section. He respectfully asked that the House of Delegates vote that the word Therapeutics be added.

Dr. Harris, New York, said that, inasmuch as there seems to be some question about the term pharmacology in the report, he moved that that part of it which relates to pharmacology be referred to the Committee on Sections and Section Work. Seconded and carried.

Dr. Harris, New York, then moved that the remainder of the report as read be adopted. Seconded and carried.

SECTION LECTURESHIP AMENDMENT ALREADY PROVIDED FOR.

The following amendments had been proposed by Dr. E. F. Wells, Illinois:

Book IV, Chapter II, Sectic[illegible] Striking out said section and inserting in lieu thereof the [illegible] *Section Lectureships.*—Each section may [illegible] f its officers, establish an annual lecturesh[illegible] lecture shall be on some subject connected [illegible] before which it is given; shall embrace the results of historical research, orig[illegible] experimental investigation, and shall not [illegible] irty minutes in its delivery. The lecturer [illegible] the section officers, the selection to be made [illegible] aspirants to submit abstracts which show clearly the facts and conclusions to be presented in the lecture, or by invitation extended to some person who has risen to preeminence in the profession of medicine, who, if a foreigner, may be nominated to honorary membership in the American Medical Association."

This is not concurred in, as the privileges seem to be accorded by Book 4, Chapter II, Section 7, and Book 1, Chapter II, Section 5, of the by-laws.

On motion of Dr. Billings, Illinois, the recommendation of the committee was concurred in.

CHANGE IN SECTION DELEGATES REJECTED.

Book IV, Chapter II, Section 2: Striking out the last (third) sentence of said section and inserting in lieu thereof the following: "Each section shall also elect biennially one representative, and one alternate, to the House of Delegates of the American Medical Association, to serve two years."

This is not concurred in, as present means of representing the sections is very satisfactory.

On motion, the action of the committee on this amendment is concurred in.

SEQUENCE OF VICE-PRESIDENTS APPROVED.

The following amendment is proposed to be added to the end of Book III, Section 2, Chapter VIII of the by-laws, viz.:

"And this rule shall apply to the other vice-presidents, each vice-president taking the place vacated by the next preceding vice-president."

The committee offers as a substitute for the above, striking out the word "first" and substituting therefor the work "ranking," so that the section shall read:

Section 2. Vice-Presidents: The vice-presidents shall assist the president in the performance of his duties; during his absence, or at his request, one of them shall officiate in his place. In case of the death, resignation, or removal of the president, the vacancy shall be filled by the ranking vice-president."

On motion of Dr. Billings, this part of the report of the committee was adopted.

NEW METHOD OF BALLOTING FOR VICE-PRESIDENTS REJECTED.

The following amendment is proposed to be added to the end of Section 2, Chapter VII, Book II, of the by-laws, viz.:

"In balloting for vice-presidents, on each ballot, each member for whom the vote is cast must be designated as either 'first vice-president,' or 'second vice-president,' or 'third vice-president,' or 'fourth vice-president.' "

The above is not advised, as the committee feels that this plan of election would prolong the election, and that the plan now followed by precedence is abundantly satisfactory.

It was moved, seconded and carried that this portion of the report of the committee be approved.

CHANGES IN APPORTIONMENT REJECTED.

The following amendments are proposed to Section 3, Chapter IV, Book II, of the by-laws, viz.:

In the second line for '1903" substitute "1905" and strike out the word "third" before the word "year."

In tenth line for the words "three years" substitute the word "year."

Strike out the remainder of the section after the word "members" in the seventeenth line.

The sense of these changes is to make the apportionment of the delegates annually, and the committee believes it would be for the best interests of the Association to continue the present system of apportionment.

The committee was directed to consider the proper representation in the House of Delegates of the profession of the State of New York, in view of the probable organization in that state. The committee feels that this end should be attained without change in our laws.

On motion of Dr. J. N. McCormack, the recommendation of the committee was adopted.

TRUSTEES TO CONTROL LOCAL ARRANGEMENTS.

In compliance with the request made at yesterday afternoon's meeting, the committee submits and recommends the following amendments:

Book III, Chapter X, Section 3: Strike out (a) "A Committee of Arrangements." and reletter the following names of standing committees.

Book III, Chapter X: Strike out Section 4, recounting the duties of the Committee on Arrangements, and adding to Book III, Chapter IX: "Section 2. The Board of Trustees shall have full control of all arrangements for the annual sessions and shall provide meeting places for the Association, the House of Delegates and the various sections. It shall also have control of all exhibits. The Board of Trustees in their discretion, may appoint a local committee of arrangements which shall be at all times under the control of the Board of Trustees."

Amend Section 7 of By-Laws, Chapter X, page 29, by adding as follows: "If, after a place of session has been selected, it becomes apparent that satisfactory transportation rates can not be secured, or the Association can not be properly entertained and cared for, the Committee on Transportation and Place of Session be and are hereby authorized to change said place of session, but said change shall not be made later than three months preceding the date fixed for the Annual Session."

PROVISION FOR CHANGING SESSION PLACE.

On examination of the constitution, the committee finds this amendment conflicts with the constitution, Article VIII. We offer as a substitute that Article VIII of the constitution be amended by the addition of the following words:

"The time and place of session may, however, be changed by the unanimous action of the Board of Trustees at any time prior to four months from the time selected for the meeting.

ALEX. R. CRAIG,
W. M. HARSHA,
F. PASCHAL,
J. GARLAND SHERRILL.

(NOTE.—The new amendments will lie over one year.)

On motion, the report of the committee was adopted as a whole.

The report of the committee in regard to method of recording the minutes was called for, but the chairman of that committee, Dr. Sanders, said the committee was not yet ready to report, but hoped to do so to-morrow.

Dr. Jones, California, asked whether the various amendments to the by-laws which were to come up for definite action could be printed and distributed to-morrow so that the members could follow them in reading.

The President said, if possible, the request of Dr. Jones would be complied with.

Resolution on Preventable Diseases in War.

REFERRED TO COMMITTEE. (See page 283.)

Under the head of "New Business," Dr. Edward F. Wells, Illinois, by request, submitted the following resolutions by a member of the Section on Hygiene and Sanitary Science:

WHEREAS, The science of prevention of disease having been long established on a solid scientific basis, it is now time that this fact be recognized by the national legislature; be it

Resolved, By the American Medical Association, that the attention of the people and of their representatives in Congress be directed to the fact that no adequate provision by law has yet been made to avoid in time of war the preventable deaths by disease of the soldiers who offer their lives for the preservation of the nation; be it further

Resolved, That this Association heartily endorses the statement of the President of the United States that the people have not compelled their representatives to provide adequately in advance of a medical system in its personnel, its nature, its organization and physical instruments necessary to make that organization effective, which alone, if prepared in advance, will obviate a trouble which otherwise is certain to come if we have a war.

On motion of Dr. George M. Kober, District of Columbia, the resolutions were referred to the Reference Committee on Hygiene and Sanitary Science.

Election of Associate Members.

Dr. Joseph McFarland, Pennsylvania, proposed the following names for associate members, Section on Pathology and Physiology: 1. Frederic S. Lee, Ph.D., University of Columbia, New York; 2. Martin H. Fisher, Ph.D., University of California; 3. Geo. T. Kemp, Ph.D., University of Illinois.

On motion of Dr. Baldwin, Illinois, these were elected associate members.

Amendment to Allow Papers Before Two Sections.

REFERRED TO COMMITTEE. (See pages 282-283.)

Dr. McFarland stated that, on behalf of the Section on Pathology and Physiology, he had a matter to present which he considered of some importance to that section. He said there is an article in the by-laws which provides that a member of a section may read his paper before one section only. This small section is composed largely of technical men, and there are many medical men, interested in pathology, who not infrequently prepare technical papers and would like to read them before this section, the same as they would papers of clinical interest before the Section on Practice of Medicine, and be enabled to do both. He, therefore, suggested that the following amendment be made to the by-laws:

Book IV, Chapter II, Section 12: "No member shall have the right to present more than one paper on the same subject at any Annual Session."

The other form of amendment is that no member shall have a right to present the same paper before more than one section at any annual session. The object of this section of the by-laws is to prevent any member who may so desire, for personal reasons, from presenting the same paper before several sections.

On motion of Dr. McCormack, the amendment was referred to the Reference Committee on Amendments to Constitution and By-laws.

Dr. John W. Foss presented an amendment on behalf of the Section on Pharmacology similar to the one just offered by Dr. McFarland, which was likewise referred to the Reference Committee on Amendments to the Constitution and By-laws.

Resolution on Uterine Cancer Investigation.

REFERRED TO COMMITTEE. (See page 283.)

Dr. Hugo O. Pantzer, Indiana, presented a resolution on behalf of the Section on Obstetrics and Diseases of Women relative to the Gynecologic Section of the International Medical Congress of Arts and Science, which was referred to the Reference Committee on Hygiene and Sanitary Science.

Amendments to By-laws.

REPORTED ON BY COMMITTEE LATER. See page 283.)

Dr. T. J. Happel, Tennessee, offered the following amendments to the by-laws:

1. Amend Book II, Chapter VI, Section 1, by adding to this section as follows: "and shall elect from day to day a chairman to preside over its meetings."
2. Amend Book III, Chapter VIII, Section 1, as follows: Strike out the words in the second and third lines "and at the meetings of the House of Delegates."

Professor Hirschberg Proposed for Honorary Member.

REFERRED TO COMMITTEE. (See page 283.)

The Secretary read the following:

The Section on Ophthalmology of the American Medical Association instructs its representative in the House of Delegates, Dr. W. H. Snyder, to present the name of our distinguished confrère, Professor J. Hirschberg, of Berlin, who is now the honored guest of the section, for honorary membership in the Association, and respectfully asks favorable action on the application.

ALBERT E. BULSON, JR., Secretary of the Section.

On motion of Dr. A. R. Craig, Pennsylvania, this communication was referred to the Reference Committee on Sections and Section Work.

Stomatology Resolutions on Contract Surgeons.

REFERRED TO COMMITTEE. (See page 285.)

The Secretary read the following resolutions, which were passed by the Section on Stomatology:

WHEREAS, It is generally believed by those who are best informed of the unsatisfactory status of the contract surgeons and the undesirable relations existing between them and the regularly organized military forces of the United States, that much good can be done by abolishing the contract system of employing medical officers; therefore, be it

Resolved, That we heartily endorse the following language of the Honorable Secretary of War expressed in his argument before the House Military Committee, January 23, 1905, viz.: "I have some personal knowledge of the unsatisfactory relations that exist between the contract surgeons and the army. There are no persons who learn so quickly the difference between a real and a 'wax' officer, if you may call him such, as the enlisted men. The life of a contract surgeon, especially one who is at all sensitive, is taken up in resenting slights. It is not a healthy attachment to any branch, but a collection of men that are neither fish, flesh, nor fowl, and I think the *esprit de corps* of the whole service, that branch of the service, would be very much better if the contract system could be entirely eliminated."

Resolved, That it is the sense of the American Medical Association that consistency and justice demand that all officers in the Medical Department of the Army should be regularly commissioned officers with graded rank and title, and that no one should serve as a medical officer by contract.

Resolved, That the Dental Corps should be graded in like manner as regularly commissioned officers with suitable rank and title, and that the contract system should be abolished in this, as in other branches of the medical service.

On motion of Dr. George M. Kober, these resolutions were referred to the Reference Committee of Medical Legislation and Political Action.

The Secretary read a communication from Dr. Frederick Holme Wiggin, New York, in which he tendered his resignation as a member of the Judicial Council, and, on motion of Dr. McFarland, Pennsylvania, the resignation was accepted.

State Journals Asked to Aid Nostrum Fight.

RESOLUTION OF DR. HARRIS ADOPTED.

Dr. E. Eliot Harris, New York, offered the following resolution:

Resolved, That the committees on publication of the journals of medicine published by the state medical associations affiliated with this body be asked to assist the Board of Trustees in their effort to suppress the advertisement of medical nostrums and to co-operate in the work of securing pure food and pure drug laws in the United States.

On motion of Dr. Billings, the resolution was adopted.

On motion of Dr. W. S. Foster, Pennsylvania, the Association then adjourned until 2 p. m. on Thursday.

Fifth Meeting—July 13.

The House of Delegates met at 2 p. m. and was called to order by the President.

The minutes of the previous meeting were read, corrected and approved.

Dr. McCormack to Continue Organization Work.

RESOLUTION OF APPROVAL.

Dr. Jones, California, moved that the by-laws be suspended for a few minutes in order that a very important and short resolution may be introduced. He said the resolution refers to Dr. McCormack, of Kentucky. Seconded and carried.

Dr. Jones then said that, realizing quite as fully as anybody could in the American Medical Association the very valuable work in organization that is being done for the medical profession in this country, he desired to introduce the following resolution and move its adoption:

Resolved, That the House of Delegates approves and endorses the work of the Committee on Organization, and requests that the present chairman, Dr. McCormack, continue the work.

The resolution was seconded by several.

Dr. McCormack said:

Mr. President and Gentlemen:—Before that resolution is put I feel it is proper for me to say a few words so that if it is adopted, and it is deemed best that I should continue in this work, it may be done with the full understanding between those representing the medical profession of this country and myself. I came here with the understanding, and have understood for months beforehand that my duties as Organizer should end with the close of this meeting, but at the earnest solicitation of my friends in various sections of the country I have consented to, at last, consider the advisability of continuing the work. If it is to be done successfully, it is essential that I should have the co-operation of the profession of every state in the Union to an extent which I have not yet had. In many of the states I have had almost to beg my way into them, because it seemed to be understood that I was either representing THE JOURNAL or the Association in a sense that its ends were to be furthered rather than the upbuilding of the local societies and the general profession in the localities I visited. What I would like to have understood is, that the gentlemen here go back to their homes and represent to their fellows that if I am to visit their states and their sections, it will be fully in the interest of the local profession, in the interest of the county society, and in no sense except as a representative of the Association.

Another impression which has greatly militated against my work is one which has appeared to exist in many sections and even at the meetings of the Association. There has crept out a feeling, to a degree at least, that the business affairs of the Association are being managed in the interests of a clique, or of a set of men who do not represent in the broadest sense the best interests of the Association. This feeling crept out in the discussion yesterday in connection with the inauguration of steps for establishing a medical directory.

I have been associated with the Board of Trustees for the last five years in a very intimate way. If there is a clique or ring in this Association, I certainly must be a part of it, because there has been no part of this work, there has been no step taken that I have not been thoroughly cognizant of, and that I have not thoroughly indorsed. This misunderstanding—and I am sure it is a misunderstanding—has crippled my efforts in various sections of the country, and will continue to cripple them until it is removed.

The members of the Board of Trustees, who are nominated and elected by you (and you are to elect three members this afternoon) have unselfishly represented your best interests. I have had the privilege of attending their meetings while you have been in session. The duties of the board are onerous. These gentlemen are giving their time, their faithful consideration to your interests, and I would like to have you carry this impression to your homes, and, if possible, to get this misunderstanding, so far as it has existed in this country, removed, and forever, so that I may not have to meet this criticism when I come to visit your localities.

I am willing to undertake this work for another year if I can carry your banner, feeling I have behind me the united profession of this country, the united profession as represented in this body, and I can do it with a success which I feel will meet your expectations. But I urge, if this resolution is adopted, and I am requested to continue in this work, that it may be done in this spirit, and with the understanding that I am to have the cordial support of the delegates here and of the profession which they represent in their respective states. (Applause.)

It is hardly necessary that I should say more. I have been associated with my colleague, Dr. Simmons, on the committee almost as a brother for five years. He has given all his time and all his thought day after day, and night after night, as unselfishly as I have done, and he is entitled to the gratitude, to the sympathetic support of every lover of the profession in the United States (applause), and I would like to feel, when I leave Portland to engage in this work, as I shall be glad to do, if I can do it with your support behind me, that it is done with a feeling that the cause for the criticism I have referred to has never existed. I hope to have back of me, so far as it is possible, the support of every delegate, and I will do what I can to organize the profession of his state if he gives me his support. (Applause.)

Dr. William E. Anderson, Virginia, said:

I feel like advocating more strenuously than would have been done, on behalf of Virginia, the adoption of this resolution. As you know, gentlemen of the House of Delegates, I am from a state, one of two, which has not adopted our reorganization plan, but I wish to say that Dr. McCormack's visit to the Medical Society of Virginia did more to foster the spirit and inclination to adopt the plan of reorganization than all the talk we have done in the state combined. I hope he will continue in this work. I am not making an apology for Virginia, but an explanation. We still have the old English spirit of conservatism, and we often think what we have is good enough, and are slow to change. In this particular I think we are making a mistake. I have advocated before the Medical Society of Virginia the adoption of the reorganization plan, and I think it is only a question of time when we will certainly do it. We fought it out at the last meeting, and if Dr. McCormack will assist us, I am certain that Virginia will soon line up. (Applause.)

Dr. Eugene Smith, Michigan: On account of the remarks made by Brother McCormack in regard to our supposed criticism of yesterday, I want to assure Dr. McCormack also that Michigan will meet him most cordially. (Applause.)

Dr. A. E. Baldwin, Illinois, asked that a rising vote be taken on the resolution of Dr. Jones.

This was accordingly done, and the resolution was unanimously adopted.

Election of Officers.

The election of officers being the next order, the President called for oral nominations for the office of President.

DR. MAYO ELECTED PRESIDENT.

Dr. W. L. Rodman, Philadelphia, said:

Mr. President and Members of the House of Delegates:—The profession of the great West have ever been most loyal to the American Medical Association. Wherever the meetings have been held, whether in New England or the far South, every western state has been always ably and fully represented. Recognizing this loyalty on the part of the western profession, I wish on behalf of Pennsylvania, to whom this Association has been most generous in the last few years, to place in nomination one of the ablest, one of the cleanest, one of the best loved of the western profession. Living in a small town, he has made it the surgical Mecca of America. If we delegates were all asked to make a list of the leading five American surgeons, we should doubtless differ as to all the names and as to the order in which we would write them down. But I am very sure that every list would contain, and many of them would place at the head, the name of William J. Mayo. (Loud applause.) Not only has he been recognized in this country, but I happen to know that he recently put to one side a most distinguished honor that was offered him by the University of Edinburgh. He was selected as one of three American surgeons—Keen of Philadelphia, Halsted of Baltimore and Mayo of Rochester, Minn.—to have a degree conferred at a meeting of the University of Edinburgh which is to take place in a few days. Mayo said to me that he was very sorry he could not go; that he had never missed a session of the American Medical Association, and that he should have to forego the pleasure, the honor, which this trip would have afforded him. Therefore, Mr. President, in view of the fact that the great trans-Mississippi country has not been recognized for the presidency for the last eleven years, it seems to me that it would be a graceful thing to tender this able, this clean, this popular representative of American medicine and surgery, the unanimous election to the presidency. (Loud applause.)

Dr. E. Eliot Harris New York:

The House of Delegates of the American Medical Association, according to my experience in this body, has been greatly interested in the union of the medical profession in the state of New York, and as Dr. Bryant, who is president of the Medical Society of the State of New York, and has recently been president of the New York State Medical Society, is a representative of this body, and chairman of an important committee, I came here to present his name for the presidency of this Association, but on learning that the great Northwest had a representative whose name has been mentioned by Dr. Rodman, I feel that I voice the true words of Dr. Bryant and the delegates of New York when I say that they join me in the nomination of Dr. Mayo. (Applause.)

Dr. A. R. Craig, Pennsylvania, moved that the nominations be closed. Seconded and carried.

The President appointed as tellers Drs. W. D. Haggard, Tennessee, and Joseph McFarland, Philadelphia.

Dr. Frank Billings, Illinois, moved that the rules be suspended and that the Secretary be instructed to cast the unanimous ballot of the House of Delegates for Dr. Mayo for President. Seconded by several.

Dr. W. H. Sanders, Alabama, said it occurred to him that it was out of order to make a motion for the Secretary to cast the ballot for any person. All the members are willing to trust the Secretary, but this was out of order.

The Chairman decided that it is competent for the Secretary to case the ballot of the Association for the election of an officer when so instructed.

The motion of Dr. Billings was put and carried.

The Secretary then cast the unanimous ballot for Dr. Mayo as President of the American Medical Association.

The names of the other officers who were duly elected are as follows:

First Vice-President, Dr. Walter Wyman, Surgeon General of the Marine-Hospital Service, Washington, D. C.

Second Vice-President, Dr. K. A. J. Mackenzie, Portland, Oregon.

Third Vice-President, Dr. Eugene S. Talbot, Chicago.

Fourth Vice-President, Dr. E. Denegre Martin, New Orleans.

General Secretary, Dr. George H. Simmons, Chicago (re-elected).

Treasurer, Dr. Frank Billings, Chicago (re-elected).

Board of Trustees, Dr. E. E. Montgomery, Philadelphia, Pa.; Dr. A. L. Wright, Carroll, Iowa, and Dr. H. L. E. Johnson, Washington, D. C.

Oration on Medicine, Dr. F. B. Shattuck, Boston.

Oration on Surgery, Dr. Joseph D. Bryant, New York.

Oration on State Medicine, Dr. W. H. Sanders, Montgomery, Ala.

Boston the Place of Session, 1906.

Dr. M. L. Harris, Chicago, made the following report:

The Committee on Transportation and Place of Session reports unanimously in favor of Boston, Mass., as the place of session for 1906.

M. L. Harris, Chairman,
W. A. Jayne,
John C. Munro,
G. C. Savage.

On motion, the report of the committee was unanimously adopted.

Committees Announced.

MEMBERS OF THE JUDICIAL COUNCIL.

P. Maxwell Foshay, Chicago. W S. Foster, Pittsburg, Pa.

COUNCIL ON MEDICAL EDUCATION.

A. D. Bevan, Chicago, Chairman.
W. T. Councilman, Boston. Charles H. Frazier, Philadelphia.
J. A. Witherspoon, Nashville. Victor C. Vaughan, Ann Arbor.

The Secretary read the resignation of Dr. M. L. Harris, Chicago, as chairman of the Committee on Transportation and Place of Session, as follows:

In view of the fact that I am a member of the Board of Trustees, which position entails a large amount of work, I respectfully tender my resignation as chairman of the Committee on Transportation and Place of Session.

On motion of Dr. Frank Billings, the resignation was accepted and a vote of thanks extended to Dr. Harris for his efficient work as chairman of the committee for the past two years.

COMMITTEE ON TRANSPORTATION AND PLACE OF SESSION.

John C. Munro, Boston, Chairman.
E. Eliot Harris, New York. W. A. Jayne, Denver.
Phillip Mills Jones, San Francisco. William H. Wathen, Louisville.

COMMITTEE ON SCIENTIFIC EXHIBIT.

F. B. Wynn, Indianapolis, Director.

COMMITTEE ON SCIENTIFIC RESEARCH.

Alfred Stengel, Philadelphia, Chairman.
L. F. Barker, Baltimore. L. Hektoen, Chicago.

COMMITTEE ON ORGANIZATION.

J. N. McCormack, Bowling Green, Ky., Chairman.
P. Maxwell Foshay, Chicago. George H. Simmons, Chicago.

COMMITTEE ON WALTER REED MONUMENT.

W. W. Keen, Philadelphia, Chairman.
Joseph D. Bryant, New York. T. S. Cullen, Baltimore.
R. C. Cabot, Boston. Victor C. Vaughan, Ann Arbor.
Robert F. Weir, New York.

COMMITTEE ON RECIPROCITY.

Wm. L. Rodman, Philadelphia, Chairman.
S. D. Van Meter, Denver. T. J. Murray, Butte, Mont.
Jos. M. Mathews, Louisville, Ky. W. B. Coley, New York.

Committee on N. S. Davis Memorial.

The Secretary read the following letter from Dr. Henry O. Marcy, Boston:

Permit me to suggest the appointment of a committee to receive funds for the erection of a suitable memorial to Dr. N. S. Davis, "the founder of the American Medical Association." Also that the privilege may be mine of contributing the first $100 toward the same.

Dr. A. E. Baldwin, Illinois, moved the appointment of a committee of five for this purpose. Seconded.

Dr. H. L. E. Johnson, District of Columbia, moved to amend by appointing a member from each state and territory in the Union. Seconded.

Dr. Baldwin accepted the amendment, with the addition that Dr. Marcy be made a member of that committee.

The original motion as amended was carried.

Time of Next Session to Be Decided Later.

Dr. A. R. Craig, Pennsylvania, moved that the time of meeting be left to the discretion of the general officers. Seconded and carried.

Committee on Sections and Section Work.

REPORT ACCEPTED AND RECOMMENDATIONS APPROVED.

Under the head of "Unfinished Business," Dr. Joseph McFarland, Pennsylvania, presented the following report of the Committee on Sections and Section Work:

The committee met after the meeting of the House of Delegates on Wednesday afternoon, July 11, the members present being Drs. Wells, Foss and McFarland.

TO ALLOW MEMBERS TO READ PAPERS IN MORE THAN ONE SECTION.

In regard to the recommendation contained in the address of President Musser, that some action be taken for facilitating the Section work, it was decided that two steps in this direction might be recommended to the House of Delegates. The first is that favorable action be taken on the amendment to the By-Laws presented yesterday (page 280), by which the privilege of reading papers in more than one section might be granted the members. The commitee realizes the difficulties that may arise from the abuse of the privilege, but believes that the benefit it would be to the smaller sections would greatly outweigh it.

As already explained, it would afford members an opportunity to read clinical papers in the Section on Practice of Medicine and the Section on Surgery and Anatomy, and technical papers in the appropriate sections—Pathology and Physiology, Hygiene and Sanitary Science, etc. This could not be to the disadvantage of the large sections whose programs would be relieved of titles of limited interest, and would be of great advantage to the smaller sections whose programs are not so easily filled.

TO INCREASE JOINT SECTION MEETINGS.

A second factor in the facilitation of the section work, and one which appeals strongly to the committee, is an increase in the number of conjoint meetings between related sections. The past tendency to differentiation which led to the formation of the sections, and of so many sections that some were obliged to combine in order to maintain their existence, has for its chief evil the loss from each section of many members whose discussion of its papers would be of great benefit to the section in which they are read. Also that many papers of equal interest are read at the same time before different section meetings in different places so that it is impossible to hear them all. Of course, the committee realizes that this is largely inevitable and irremediable, but it believes that much could be done to improve the present state of things should the officers of the various sections early make arrangements for a certain number of conjoint meetings.

To explain this idea more clearly, it may be pointed out that most questions relating to the infectious diseases are of common interest to clinicians, pathologists and bacteriologists, hygienists and sanitarians, and would come within the scope of the work of three sections. Could a time, therefore, be set aside for such papers to be considered at a conjoint meeting of the three sections, it would be greatly to the advantage of the members of the two sections before which they would not otherwise be read, and of enhanced advantage to the members of the section in which they are read, in that they would have the benefit of the wisdom and knowledge of the members of two other sections by whom the papers would be discussed.

This recommendation does not refer to symposia. The sense in which it is intended is much broader. Without reference to any particular disease, all papers offered to the Section on Practice of Medicine, having the relation to infectious diseases already intimated, might be arranged to fall on a certain afternoon, on which the work of the other two mentioned sections might be temporarily or finally suspended. Papers on medical affections, remediable by surgical intervention, might be arranged to appear at a time when the members of both these sections could combine, or if the number of papers on these programs is too great to permit either to suspend for even a part of a session, at some time when in one or the other section papers of most limited interest were being read.

Should it not be found feasible to carry out the idea of conjoint meetings, with the attention it seems to merit at the present time, the first step in that direction should be an orderly grouping of the papers by the secretary of the section, and a thoughtful arrangement of the general program by the Secretary of the Association, so that the most interesting meetings of the various sections will not occur simultaneously.

The committee believes that the integration of the section work might be facilitated by a general meeting between the newly elected section officers on the last day of the annual session, at which measures for the success of the next session can be devised.

SECTION ON ELECTROTHERAPEUTICS DISAPPROVED.

In reference to the petition (page 256) for the formation of a section on electrotherapeutics, the Secretary of the Association, who has received the correspondence, informs the committee that only one letter has been received in regard to the matter, and the committee thinks the demand for the section too limited to insure its permanence and success.

SECTION ON PHARMACOLOGY AND THERAPEUTICS NAME APPROVED.

In regard to the suggested change in the name of the Section on Pharmacology, the committee believes that each section is best able to define itself and its scope. We understand that on two occasions the section has voted for this change, though this is the first time it has appeared before the House. We, therefore, recommend that according to the petition of the section, its name be changed to the Section on Pharmacology and Therapeutics. (See page 278.)

HONORARY AND ASSOCIATE MEMBERS.

The committee reports favorably on the nominations of Prof. J. Hirschberg, Berlin, to honorary membership in the Association, and of F. S. Lee, M. H. Fisher and G. T. Kemp, associate members, to the Section on Pathology and Physiology.

JOSEPH MCFARLAND, Chairman,
JOHN W. FOSS,
EDWARD F. WELLS.

Dr. Baldwin, Illinois, moved that the report of the committee be accepted and the recommendations approved. Seconded and carried.

Report of Reference Committee on Amendments.

Dr. Craig, Pennsylvania, presented this report, as follows:

The Reference Committee on Amendments to Constitution and By-laws urges on the House of Delegates the importance of making only such of the following suggested changes in the by-laws as are imperative:

Book IV, Chapter II, Section 12 (page 28): "No member shall have the right to present the same paper before more than one section at any annual session."

Amendment to Book IV, Chapter II, Section 12 (page 28.) "No member shall have the right to present more than one paper on the same subject at any annual session."

RESOLUTION BY SECTION ON PHARMACOLOGY, TUESDAY, JULY 11.

Resolved, That the delegate of this Section, J. W. Foss, Arizona, be instructed to present the following amendment:

To amend: Book IV, Chapter II: "Sections." Section 12, so as to read: "A member shall have the right to present a paper or papers before only two sections at any annual session."

MEMBERS MAY READ PAPERS BEFORE ONLY TWO SECTIONS.

The committee advises the adoption of the last suggestion, with an addition, so that the By-Laws shall read as follows:

Book IV, Chapter III, Section 12: "A member shall have the right to present a paper or papers before only two sections at any annual session. When more than one section is to be addressed, the titles and abstracts of the papers must be submitted to the secretaries of both the sections before which the papers are to be read." (See Book IV, Chapter II, Section 9, page 27.)

PROVISIONS FOR CHAIRMAN OF HOUSE.

The committee has considered the suggested amendments to by-laws offered by Dr. T. J. Happel at a previous meeting (page 280). The committee feels that the task of presiding over this body should be neither unpleasant nor laborious. If, however, it proves distasteful to the President, he may delegate this work to any one of the four Vice-Presidents, and, should it so occur that neither of these officers present themselves to preside over the House of Delegates, this body will, as it has done in the past, elect a temporary chairman. The committee, therefore, does not concur in the passing of Dr. Happel's amendments.

ALEX R. CRAIG, *Chairman.*
W. M. HARSHA,
J. GARLAND SHERRILL,
WM. N. WISHARD,
FRANK PASCHAL.

It was moved that the report of the committee, with its suggestions, be concurred in. Seconded.

After some discussion regarding the amendments of Dr. Happel, which was participated in by Drs. Harris, Baldwin, Craig, Johnson, the motion was put and carried.

Report of Reference Committee on Hygiene.

SANDERS' RESOLUTION ON DISEASE IN WAR ADOPTED.

Dr. W. H. Sanders, Alabama, presented the report of the Reference Committee on Hygiene and Public Health with reference to a resolution relative to preventable deaths by disease in time of war, which was offered at a previous meeting and referred to this committee. (See page 279.)

The committee recommends the adoption of this resolution.

On motion of Dr. J. D. Griffith, Missouri, the recommendation of the committee was concurred in.

COMMITTEE TO ACT ON UTERINE CANCER PROPOSITION.

In regard to the following resolution from the Section on Obstetrics and Diseases of Women, which was referred to the committee (page 280), together with the accompanying report on "What May Be Done to Increase the Percentage of Cures in Uterine Cancer?" the committee recommends that a committee of five be appointed by the chairman to investigate the plan proposed by the committee of the Gynecologic Section of the International Congress of Arts and Science, to amend it as it sees fit and, with the sanction of the advisory council, put such portion of it into execution as it sees fit.

On motion of Dr. Bacon, Illinois, the recommendation of the committee was concurred in. The resolution and report are as follows:

Resolved, That the Section on Obstetrics and Diseases of Women refer to the House of Delegates at the earliest time during the present session, the report of a committee appointed by the chairman of the gynecologic section of the International Congress of Arts and Science, held at St. Louis, Sept. 24, 1904, to report to the present session of the American Medical Association suggestions as to what may be done to increase the percentage of cures in uterine cancer, and to urge of this body the appointment of a special committee to take charge of this matter and to report to the Section on Obstetrics and Diseases of Women as to results at its annual session.

WHAT MAY BE DONE TO INCREASE THE PERCENTAGE OF CURES IN UTERINE CANCER?

At the meeting of the Gynecologic Section of the International Congress of Arts and Science, held at St. Louis, Sept. 24, 1904, Dr. John C. Webster moved that the chairman of the section, Dr. Howard A. Kelly, appoint a committee to report at the next session of the American Medical Association and to suggest what may be done to increase the percentage of cures in uterine cancer. The motion of Dr. Webster was seconded and carried, and a committee, consisting of Dr. John A. Sampson, Albany, N. Y.; Dr. Fred J. Taussig, St. Louis, and Dr. John G. Clark, Philadelphia, appointed.

This committee herewith submits its report. It wishes to emphasize certain clinical facts and formulates suggestions for the education of both physician and patient so that cases may be detected earlier in the course of the disease.

I. Cancer of the uterus is the most frequent form of primary cancer.

II. Cancer of the uterine cervix is more important than cancer of the body of the uterus, because it is much more frequent and malignant. For the above reasons cancer of the uterine cervix will be considered first.

1. Its course is rapid; patients rarely live over three years, and about three-fourths of them die within two years, and one-third within one year after the first manifestation of the disease.

2. Probably in from 75 to 80 per cent. of the cases in this country the patients present themselves too late for anything but palliative treatment, and the disease returns in from 75 to

90 per cent. of the patients operated on, depending on the extent of the disease at the time of the operation and the nature of the operation.

3. The disease apparently is curable if it can be completely excised and implantation avoided.

4. The main hope lies in operating before the disease metastasizes, because only a very small percentage of the patients can be cured after this takes place; therefore, it is most important that an early diagnosis should be made and the operation done as soon as possible after making the diagnosis.

5. The form of operation is of secondary importance to the early diagnosis, but a wide excision of the parametrium, together with the primary growth, is demanded.

6. An earlier diagnosis is possible in a large percentage of the cases. Probably over 50 per cent. of the operable cases and a much higher percentage of the inoperable cases, bleeding has been present for over six months before operative treatment is considered. As the course of the disease is usually rapid, six months or even less of neglected uterine bleeding permits the disease to extend so far that in only a small percentage of the cases can the patients be cured. Still, it must be remembered that in many apparently advanced cases the patients have been permanently cured by the more recent radical operations.

7. Symptomatology of cancer of the uterine cervix:

(A) Disease of midlife, occurring especially between the ages of 30 and 50.

(B) It rarely occurs in women who have not had children.

(C) Bleeding or a blood-stained discharge is usually but not always present. This may be: 1. Slight, "only a show," appearing at irregular intervals, as on exertion, after sexual intercourse, after using a douche or straining at stool; or it may be slight but constant, the patient noticing that her clothes are slightly stained on taking them off at night. 2. In other cases, bleeding may be more profuse, as a prolonged or irregular menstruation or a return of the menses after the menopause. 3. In still other cases, severe hemorrhages may occur, appearing either as the result of some unusual exertion or during menstruation, or their cause may not be apparent.

(D) In a small percentage of the cases, bleeding may be absent, but usually some other sign, such as a serous discharge, calls attention to the growth. In a small percentage of the cases, all symptoms referable to the growth may be absent for a long time.

(E) Pain caused by the growth usually occurs later in the course of the disease, and must be sharply differentiated from pain arising from pelvic trouble independent of the cancer, such as an inflammatory condition of the tubes and ovaries.

III. Cancer of the body of the uterus is much less frequent than cancer of the cervix; it grows much more slowly and remains restricted to the uterus for a long time, and for these reasons the diagnosis is usually made earlier in the course of the disease and its operative treatment is attended with a lower primary mortality and a much higher percentage of cures. Cancer of the body of the uterus usually occurs in older women than cancer of the cervix and frequently in women who have not had children.

IV. It is evident that all patients with uterine bleeding or other symptoms referable to the uterus should be examined as soon as possible, and if the diagnosis is not clear the uterus should be curetted or a small piece of the cervix excised and not thrown away, but placed in 10 per cent. formalin or ordinary alcohol and sent to a competent pathologist.

V. It is most desirable that the work of educating the general body of physicians and the public at large, in particular the mothers, concerning the nature of this disease should be undertaken by a general medical association, in order that it may become universal and reach as many as possible, and that all appearance of advertising should be done away with. For these reasons, it seems fitting that the American Medical Association should take the initiative.

VI. The following measures are suggested to this end:

(A) The education of the general body of physicians in this affair may be furthered:

(1) By mailing, under separate cover, to each member of the American Medical Association, a reprint of this report.

(2) By emphasizing on all occasions the importance of an immediate examination of all patients having symptoms resembling those of uterine cancer.

(3) By obtaining the assistance of university and other pathologic laboratories in the examination of bits of cervical tissue or scrapings. Such work should be done free of charge, except when patients can afford to pay a fee of from $5 to $10.

(4) By suggesting to the state boards of health the advisability of establishing a large number of stations throughout the country where a small bottle containing a 10 per cent. formalin solution, a mailing box, directions as to the removal of tissue for examination and the address of laboratories where examinations are made, may be obtained.

(B) The education of the laity, especially the women, can also be promoted. In Prussia, where the education of the women along these lines was attempted on a large scale, results already show a striking increase in the percentage of cases discovered early in the disease. The method employed there, i. e., newspaper advertising, is not considered advisable for this country. In other ways, however, much good may be accomplished.

(1) In the first place the family physician should seek to inculcate, as far as possible, among his circle the necessity for early investigation of suspicious symptoms.

(2) Secondly, in our large cities, where educative work is done among the poorer classes by social settlements and other charitable organizations, lectures or informal talks should be given to mothers on this subject by district nurses, or by nurses at the head of hospitals, who are provided with the necessary information.

(3) Finally, the co-operation of such national organizations of women, as the "American Federation of Women's Clubs," should be sought with the view that lectures or informal talks be held before their individual bodies by trained nurses capable of explaining to them the symptoms and the necessity for early operation in uterine cancer.

VII. Further we would advise that a communication be addressed to each of the state medical associations affiliated with the American Medical Association, inclosing a reprint of this report, with the recommendation that each state seek to assist in this educational work along the lines suggested. The bulk of the work must, in the long run, be done by the individual state organizations.

VIII. The work of carrying out the plan as here suggested and of seeking to inspire the interest of state organizations in the matter should be intrusted to a special committee of five to be appointed by the President of this session. This committee would be expected to report at the next session of the American Medical Association on the work thus far accomplished.

Committee on Recording Minutes.

REPORT HELD OVER ONE YEAR FOR ACTION.

The Committee on Recording Minutes reported as follows:

To the President and Members of the House of Delegates of the American Medical Association:—The committee appointed to consider the method according to which the minutes of this house are kept and published and to make recommendations in reference thereto begs leave to submit the following report:

1. The committee finds, by examination of the minutes for several years past, that at places they have been incomplete by reason of the omission of reports, resolutions, communications, etc., the documents in question being referred to, but not printed in full.

The committee recommends that such omissions be not made in the future.

2. The committee is of the opinion that the names of the members of the House of Delegates present at each session should be reported in the minutes. Inasmuch as this could not be done without a call of the roll, the committee recommends that calling the roll be made a part of the regular order of business at each sitting of the house.

3. The committee is also of the opinion that to prepare complete and full minutes of a session of the House of Delegates requires more time than is available between the sittings. The committee recommends, therefore, that, while the Secretary should read at the opening of each session a memorandum of what transpired at the previous sitting, such memorandum shall not be deemed the complete and final minutes of the session.

4. The committee recommends that as early after each annual session of the Association as can be done the Secretary shall prepare full and complete minutes of the session and cause them to be published in pamphlet form for distribution to the members of the House of Delegates and to be inserted in The Journal for the information of the members of the Association, said minutes to be submitted for adoption at the next annual session and, as a matter of course, to be subject to correction.

5. The committee recommends that the original notes of the proceedings of the House of Delegates, made by the official stenographer, be permanently filed, in order that should differences of opinion arise as to what was said or done such notes can be referred to.

6. According to the information of the committee, ad-

journed meetings of this body have been held in the State of Illinois for the purpose of validating in that state business transacted in other states, and thus technically to comply with the requirements of the charter of the Association. Looking back over the official minutes for several years past, no minutes of such meetings have been found. The committee, therefore, recommends that the transactions of any such adjourned meetings as may be held in the future be published in The Journal and also appended to the minutes of the annual meeting recommended to be published in pamphlet form.

All of which is respectfully submitted.

July 13, 1905.
W. H. Sanders,
F. Paschal,
W. S. Foster,
J. F. Percy,
Donald Campbell.

Dr. Griffith, Missouri, moved the adoption of the report. Seconded.

After some discussion, which was participated in by Drs. McCormack, Sanders and Billings, it was amended that the report of the committee be accepted and its consideration postponed until the next annual session. This carried.

Report of Committee on Amendments.

REAPPORTIONMENT FOR NEW YORK.

Dr. Craig, Pennsylvania, speaking for the Reference Committee on Amendments to Constitution and By-laws, stated that in the case of the State of New York the Committee on Reapportionment has made an exception to that state and has limited that exception to a term which expired May 1, 1905. He moved that this term be extended to May 1, 1906. Seconded and carried.

Report of Reference Committee on Legislation.

INDORSEMENT OF CONTRACT SURGEONS' BILL.

With regard to the resolution from the Section on Stomatology, relating to rank of contract surgeons and dentists in the U. S. Army, the Reference Committee on Medical Legislation and Political Action respectfully reports that the committee is creditably informed that there is already a bill before Congress which has passed the Senate and which has been recommended by the military committee of the House with amendments, but which failed to be brought up on account of the opposition of Speaker Cannon. This bill gives temporary commissions to contract surgeons, which commissions may be revoked by the President when their services are no longer needed. Your committee recommends the indorsement of the bill by the House of Delegates of the American Medical Association with reference to the commissioning of dentists. Your committee recommends that the matter be postponed until the next session of the Association.

On motion, the recommendation of the committee was concurred in.

Bill to Relieve Surgeon-General Hammond's Widow.

REFERRED TO COMMITTEE.

Dr. H. L. E. Johnson, District of Columbia, called the attention of the Committee on Medical Legislation to a bill pending before Congress for the relief of the widow of the late William A. Hammond, Surgeon General of the Army. The bill is as follows:

> A bill to amend the act approved March 15, 1878, entitled "An Act for the relief of William A. Hammond, late Surgeon-General of the Army."
>
> *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That so much of section 2 of the Act, entitled "An Act for the relief of William A. Hammond, late [illegible] e Army," approved March 15, 1878, as provide [illegible] shall not be entitled to pay while on the re[illegible] of the Army be, and the same is hereby, repealed, and the said Hammond shall be entitled to the pay of a brigadier-general of the Army on the retired list from the date of his appointment and retirement under said Act, on Aug. 27, 1879, up to the date of his death, Jan. 5, 1900, the same to be paid to Esther D. Hammond, his widow.

The bill has passed the House, and Dr. Johnson asked that it be referred to the Committee on Medical Legislation, and it was so ordered.

Resolution of Thanks to Portland.

Dr. J. N. McCormack offered the following:

> *Resolved*, That the cordial and unanimous thanks of this Association be and are hereby tendered to the medical profession and citizens, and especially to the charming women of the city of Portland and the State of Oregon, for the hospitality so generously, continuously and successfully extended during the session; to the Committee of Arrangements for its faithful and laborious efforts in our behalf; to the press of Portland, for the full and complete reports of our proceedings, and to all others who have in any way assisted in making this one of the most pleasant and profitable in the history of the Association. Also, our thanks to the President, Dr. John H. Musser, and the President-elect, Dr. Lewis S. McMurtry, for the able, impartial and courteous manner in which they have discharged their duties during the year, and at this annual session.

It was moved that the resolution be adopted unanimously by rising vote. Seconded and unanimously carried.

Constitution Declared Valid.

Dr. W. H. Sanders, Alabama, moved that a committee of five be appointed by the chairman to consider the validity of the Constitution under which the Association is now living. Seconded.

After some discussion, which was participated in by Drs. Craig and McCormack, it was moved that the motion be laid on the table. Seconded and carried.

For Free Copies of Transactions.

LARYNGOLOGY SECTION RESOLUTION REFERRED TO TRUSTEES.

The Secretary read the following resolution, passed by the Section on Larynology and Otology:

> *Resolved*, That the Section on Laryngology and Otology requests the House of Delegates to make arrangements to have the members of sections present at sessions of the A. M. A. receive the bound volumes of the transactions of their respective sections without the charge of $1.00 heretofore collected, and that said transactions be delivered to such members.
>
> Otto T. Freer,
> Secretary of the Section.

On motion of Dr. Craig, Pennsylvania, this resolution was referred to the Board of Trustees.

Porto Rico Association.

The Secretary presented a communication from Dr. A. M. Fernandez-Ybarra in regard to the admission of the Medical Association of Porto Rico, and, on motion of Dr. Jones, California, the communication was referred to the Committee on Organization.

Invitations for 1907.

The Secretary read several telegrams from San Francisco and Denver, inviting the Association to hold its meeting in 1907 in one of these cities.

On motion, these telegrams were referred to the Committee on Transportation and Place of Session.

Report of Judicial Council.

The attention of the President was called to the fact that the Judicial Council had not made any report at this session, as is required by the by-laws.

The Secretary stated that the Judicial Council was unable to get a quorum present in Portland to transact any business.

Final Adjournment of House of Delegates.

There being no other business to come before the meeting, on motion, the Association then adjourned to meet in the city of Boston in 1906.

Members of House of Delegates in Attendance

ALABAMA.

Robertson, Wm. H.
Morris, Lewis C.
Sanders, William H.

ARIZONA.

Hughes, Henry A.

ARKANSAS.

Collings, Howard D.

CALIFORNIA.

Jones, Phillip Mills.
Hamline, Oliver D.
Hunkin, S. J.
Terry, W. I.

COLORADO.

Jayne, W. A.
Gildea, P. F.

CONNECTICUT.

Carmalt, W. H.

DISTRICT OF COLUMBIA.

Kober, Geo. M.

FLORIDA.

Bowen, Frederick J.

GEORGIA.

Coleman, Thomas D.
McRae, Floyd W.

HAWAII.

Wayson, J. T.

IDAHO.

Waterhouse, G. M.

ILLINOIS.

Harsha, Wm. M.
Billings, Frank.
Percy, J. F.
Sutton, Emerson M.
Taylor, L. C.
Bacon, C. S.
Cook, J. C.
Smith, D. C.

INDIANA.
Daugherty, C. A.
Schell, Walker.
Wishard, W. N.
Emery, C. H.

IOWA.
Dorr, E. E.
Brockman, D. C.
Bierring, W. L.
Powers, Fred W.

KANSAS.
Daily, F. M.

KENTUCKY.
McCormack, J. N.
Sherrill, J. Garland.
Price, A. D.

LOUISIANA.
Chassaignac, Charles.

MARYLAND.
Winslow, R.
Smith, R. P.

MASSACHUSETTS.
Williams, C. H.
Munro, J. C.
Richardson, M. H.

MICHIGAN.
Smith, Eugene.
Garner, H. B.
Robbins, Frederick W.
West, W. K.

MINNESOTA.
Workman, H. M.
Rogers, J. T.

MISSISSIPPI.
Williams, J. D.
Harrison, W. H.

MISSOURI.
Dorsett, W. B.
Kieffer, A. R.
Griffith, J. D.

MONTANA.
Campbell, D.

NEBRASKA.
Pickett, Ira N.
Moore, R. C.

NEW JERSEY.
Halsey, Luther M.
Hollingshead, E.
Marcy, Alexander.

NEW MEXICO.
Black, B. D.

NEW YORK.
Ferguson, Everad D.
Harris, E. Eliot.
Goffe, J. Riddle.
Cott, Geo. F.

NORTH DAKOTA.
Stickney, V. H.

OHIO.
Bonifield, C. L.
Duncan, J. A.
Bain, J. D.
McCurdy, John.
Kimmell, J. A.

OKLAHOMA.
Hatchett, J. A.

OREGON.
Smith, C. J.

PENNSYLVANIA.
Frankhauser, Fremont W.
Gable, Isaac C.
Stevens, Cyrus L.
Craig, A. R.
Foster, W. S.
Guthrie, G. W.
Rodman, W. L.
Stengel, Alfred.

SOUTH DAKOTA.
Warne, R. C.

TENNESSEE.
Miller, W. J.
Herron, J. T.
Haggard, W. D.

TEXAS.
Paschal, Frank.
Knox, R. W.
Turner, S. S.
Hudson, S. E.
Wood, W. A.

UTAH.
Baldwin, S. C.

VERMONT.
Hammond, S. W.

VIRGINIA.
Anderson, Wm. E.
Johnston, Geo. Ben.

WASHINGTON.
Dewey, Henry W.

WEST VIRGINIA.
Wilson, L. D.
Dickey, J. L.

WISCONSIN.
Sheldon, C. S.
Caples, Byron M.
Evans, Edward.

WYOMING.
Wicks, J. L.

PHILIPPINE ISLANDS.
Musgrave, W. E.

U. S. P. & M.-H. SERVICE.
Cumming, H. S.

U. S. ARMY.
Woodruff, Charles E.

U. S. NAVY.
Boyd, John C.

OBSTETRICS AND DISEASES OF WOMEN.
Pantzer, Hugo O.

DISEASES OF CHILDREN.
Hollopeter, W. C.

OPHTHALMOLOGY.
Snyder, W. H.

PATHOLOGY AND PHYSIOLOGY.
McFarland, Joseph.

STOMATOLOGY.
Baldwin, A. E.

NERVOUS AND MENTAL DISEASES.
Wolfstein, D. I.

PHARMACOLOGY.
Foss, John W.

PRACTICE OF MEDICINE.
Wells, Edward F.

CUTANEOUS MEDICINE AND SURGERY.
Baum, Wm. L.

LARYNGOLOGY AND OTOLOGY.
Barnhill, John F.

OFFICIAL MINUTES—GENERAL MEETINGS

First General Meeting—July 11

The Association met in the Armory of the Oregon National Guard at 10:40 a. m., and was called to order by the President, Dr. John H. Musser, of Philadelphia.

Ex-presidents and vice-presidents were invited to take seats on the platform, and among those who accepted the invitation were Drs. Henry O. Marcy, Frank Billings and Edward Jackson.

Address of Welcome.

The Rev. A. A. Morrison offered prayer, after which President Musser introduced Honorable M. C. George, of Portland, who delivered an address of welcome on behalf of the state of Oregon, in the absence of Governor George E. Chamberlain.

Mr. George said:

Honored Members of the American Medical Association:

I appreciate very highly the honor of representing the governor in extending to you a hearty welcome to the state of Oregon. Governor Chamberlain is unavoidably absent from the state, but I want to disabuse your minds of any impression that he left the state because of the influx of physicians, or on account of any apprehension that this distinguished body of surgeons might perform an operation on him. (Laughter.)

The governor of this state is a most excellent man or he never would have been elected democratic governor of this republican state (Hurrah, and applause); and I will be followed on this platform in welcoming you by that other prince of good fellows, Mayor Lane, of this city, another democrat who has been elected mayor of this great republican city. (Applause.) I want you to know that strong as this republican county is, it has a democratic sheriff and a democratic prosecuting attorney. (Laughter and applause.) I want to tell you that this is a mighty good place for Democrats, if there are any among you, and I judge by your handsome looks that there are. (Laughter.) If you can leave your patients in the East and come out here and settle with us, we will assure you an office before very long. This is a good place for physicians. Over in our sister state of California they have elected a physician governor of the state (applause), and in Oregon we have a great many physicians who want to be governor of Oregon. (Applause.)

In behalf of the state, I want to welcome you personally and as members of this distinguished body. We are proud of our state. We think we are wonderfully situated from the standpoint of Nature. We are here half way between the north and the south and the great opening of the Pacific. Along by our city flow the waters of the river through this fertile valley, and close by is the Columbia river, that heads the way up in British Columbia, divides the state of Washington, unites there with a branch which heads over into Wyoming, comes down and traces the border of Idaho, and these two great branches uniting together, pass on down between Oregon and Washington, bearing the commerce of the great interior on down by the city of Portland and on into the ocean. And right here I might call your attention to this remarkable fact, providential as it may seem, that the All-wise Ruler of the Universe has seen fit to place the great and mighty Willamette river and the noble and mighty Columbia river right alongside the city of Portland. We would like to have you come out here and settle down, as I know you appreciate a good thing when you see it. We are made up here of the best blood of all countries, and we want the best blood of all countries to come here and settle and grow up with us in the future. (Applause.) We have been built up from all the states of the Union, and I may say without any disparagement to any other portion of this great Union that we are the blooded people of this nation, barring myself, of course. (Laughter.) And judging by the way you act, I know you are by this time.

On behalf of the judiciary of this state, I will promise you one thing, that if any of you ever come before any of us during your stay in this city, we will give you the best that we have. (Laughter.) Again, I want to extend to you a most hearty welcome on behalf of the state of Oregon and to express the hope that you will come out here and locate if you can only arrange with your patients at home so that they can dispense with your services. We want you to help and add to the good people of this country, for of such, I assure you, is the kingdom of the Pacific of the Northwest. Now, to you all personally, sincerely, I extend to you a hearty welcome to the state and trust that your stay with us will be as pleasant to you as I know your deliberations will be beneficial to the profession at large and to the people generally of this conutry. (Loud applause.)

The Address of the Mayor of Portland.

President Musser then introduced the Mayor of the city of Portland, Dr. Harry Lane, who, among other things, said:

We are glad, pleased and proud to have you with us. You are a representative gathering of a most intelligent body of American citizens. My friend, Judge George, being a lawyer, does not appreciate that. Lawyers have a reserve store of wit, of old jokes, which they lay up and let loose on the physicians. Their profession is to talk, the physicians' is to work. The physician does not often get the opportunity to return the compliment. Not long ago there was an estimable citizen of this city who had been drinking more than was good for him. He became nervous and was sent to an asylum, or rather to a more quiet place, to recuperate and to recover his nervous tone. While he was up there a friend of his, an attorney by the way, took him out for a walk, and during this walk they happened into a cemetery. It was a cool and shady place. They sat around, looked over the tombstones and read the epitaphs which were written on them, and finally they came to a grave, and this fellow, who was still a little bit muddled from heavy drinking, stepped up before it and read the epitaph which was printed on the tombstone, and it was over the grave of an eminent attorney who died a number of years ago. It read something like this: "Here lies So-and-So, an eminent attorney and an honest man." The citizen from Portland looked at it very carefully and said to his friend, "Billy, Billy, what did they bury both of those men in the same grave for?" (Applause and roars of laughter.)

This country is new to most of you. To some of us it is an old story. I was born here. My people came here in 1848, and fought the Indians after I was born, and as early companions I had the Indian boys to play with around about the country. So it is an old story with me.

I wish to say, by the way, that I noticed a slight oversight on the part of my friend, Judge George. He is an amiable gentleman and a good attorney. He makes an excellent judge. But he forgot to tell you that I am a physician. He gave me credit for being a democrat, but I am also a physician and a member of this Association. (Applause.)

The railroads which brought you into this section of our country follow the line of the trail which the Indians made over the mountains, and they followed the trail made by deer and elk. Then came along the white man, and he constructed railroads. If you have time, and the inclination, you will find these old Indian trails leading from the base of Mt. Hood right along the Cascade Range to the east of us. I have been through these mountains and have seen them in their rugged beauty and grandeur. We have a different climate, a pleasanter climate, from that you have in the East. The air is sweet and balmy. It will do you good. The scenery is fine. It is fascinating and picturesque. We have mountain ranges and snow-capped mountains. We can grow almost anything in this climate. We will be glad to have you look over our country, take an excursion up the river, and see the beauties of the Columbia, which surpasses the Hudson river. If you tell the people in the East what you see here, they will not believe you. You will find cherries here as large as small plums. When you tell them about that, they are ready to say you are lying, and that may be. (Laughter.) You may exaggerate a bit, of course, and that goes with the climate, too. (Laughter.)

I have noticed that a lawyer when he gets sick, when he becomes ill in his body, is just as anxious, perhaps a little more, to get a physician to sit by his bed as any other citizen in the country. You, as members of the medical profession, have noticed that.

I do not wish to make a prolonged talk, as I came here without notes. I was recently elected mayor of this city, and I find the position of mayor does not jibe up and fit in with the practice of medicine. A delegation is now awaiting me at the city hall to consider matters of vital importance. I was elected mayor of this city in spite of the fact that I was a democrat, and I want to say to you that it was not on account of my personality, nor my good looks, nor anything else, but just simply because I told the people that if they elected me mayor I would execute the laws as I found them on the statute books. (Applause.) There were many people who thought that this was a brave proposition, but it is an easy one to perform. The laws are there, and I shall see to it that they are executed. There is an ordinance to the effect that saloons shall not have boxes in them. Two weeks ago I was inducted into office as mayor, and in looking over the ordinances I found such a law, and I instructed the chief of police to put it into effect. I propose to enforce these laws and see how the people like it. I did not make them; I am merely here to execute them.

Again, I wish to say, that we are pleased and proud and it is an honor, a great honor, to have the American Medical Association meet in our city. We want to treat you well. We are a kindly people. Our climate is soft and mild, and that mellows us some. We want you to enjoy yourselves, and I assure you that we will do everything we can to make your visit interesting. I have even gone so far as to instruct the chief of police to be gentle with you (laughter), and not to pull you in under any circumstances if it can be avoided. And so you will have me, as your fellow member of the Association, and the chief executive of this city, to stand by you in almost anything you may do while you are here. (Applause.) I thank you kindly. (Loud applause.)

Welcome from the Oregon Profession.

Dr. George F. Wilson followed with an Address of Welcome as President of the Oregon State Medical Society.

Dr. Henry W. Coe, president of the City and County Medical Society, also welcomed the Association on behalf of that organization.

Report of Committee of Arrangements.

Dr. K. A. J. Mackenzie, Portland, chairman of the Local Committee on Arrangements, made a brief verbal report, and announced the following program of entertainments:

TUESDAY EVENING, JULY 11.

General reception and smoker, with special program of entertainment and with refreshments, at the American Inn, Lewis and Clark Fair Grounds, given to the members of the American Medical Association by the city and county, state and district societies.

WEDNESDAY, JULY 12.

Trolley ride to Portland Heights, 7 a. m. Cars leave First and Washington streets. Free to members and their families.

Afternoon—Ladies' entertainment.

Evening—Receptions at private residences.

THURSDAY, JULY 13.

Trolley ride to Portland Heights, 7 a. m. Same as Wednesday.

Afternoon—Ladies' entertainment.

Evening—Grand fête on Exposition grounds, with special program in New York State Building; music, dancing, fireworks, refreshments, etc.

FRIDAY, JULY 14.

Columbia River excursion. Boats leave Ash street dock at 8 a. m.

Introduction of Professor Hirschberg.

Professor Hirschberg, of Berlin, Germany, professor of diseases of the eye in the University of Berlin, was invited to the platform and introduced to the Association.

Introduction of President-elect.

The retiring President, Dr. Musser, then introduced the President-elect, Dr. Lewis S. McMurtry, Louisville, who delivered the address of the president.

He selected for his subject, "The American Medical Association: Its Origin, Progress and Purpose." (This appeared in The Journal, July 15.)

Second General Meeting—July 11

The Association met at the First Presbyterian Church at 7:40 p. m., and was called to order by President McMurtry.

Dr. Charles G. Stockton, Buffalo, N. Y., delivered the Oration on Medicine. (This was published in The Journal, July 15.)

Dr. J. Collins Warren, Boston, delivered the Oration on Surgery. (This was published in The Journal, July 15.)

On motion of Dr. Frank Billings, Illinois, a vote of thanks was extended to the orators for their interesting and instructive orations.

Adjourned.

Third General Meeting—July 12

The Association met at the First Presbyterian Church at 7:30 p. m., with the President in the chair.

Dr. Geo. Blumer, San Francisco, was introduced and delivered the Oration on State Medicine. (This was published in The Journal July 15.)

Dr. Henry O. Marcy, Boston, followed with a "Memorial Address on Dr. Nathan Smith Davis."

Adjourned.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

July 8.

1 *Unavoidable Errors in the Diagnosis of Psoas Abscess. H. A. Wilson, Philadelphia.
2 *Treatment of Some Neuralgias by the Roentgen Ray. C. L. Leonard, Philadelphia.
3 [illegible] Corpus Uteri Coexisting with Squamous [illegible] Cervix. A Rare Combination. B. F. [illegible]
4 *Traumatic Cerebral Diabetes. M. J. Seifert, Chicago.
5 *Fractures and Dislocations of the Ulna*: A Review with Report of Cases. J. S. Wight, Brooklyn, N. Y. (To be continued).
6 Premonitory Symptomatology of Laryngeal Tuberculosis, with Especial Reference to Tuberculous Sublaryngotracheitis. R. H. Skillern, Philadelphia.

1. **Errors in Diagnosis of Psoas Abscess.**—Wilson cites enough instances to show that the diagnosis of psoas abscess is not always easy, and that each case is worthy of the most careful study in every phase presented. The presence of well-marked evidence of spinal caries, he states, is sometimes misleading, and great spinal deformity is often present long after the activity of the bone disease has subsided. When conditions more or less closely resembling psoas abscess are also present, the preponderance of evidence is often in favor of psoas abscess when in reality some other disease or condition is present. The knowledge that these errors in diagnosis have occurred under the most critical inspection and elaborate study, Wilson says, is convincing that while they are not always avoidable, they should be guarded against as far as possible.

2. **Treatment of Some Neuralgias by the Roentgen Ray.**—Leonard calls attention to the work that has been accomplished in relieving intolerable conditions of pain by the use of this agent. The cases which he reports indicate what may be accomplished under favorable conditions and are not to be taken as a definite measure of an agent with which a measured dose can be applied to accomplish the same result. Each patient, he states, must receive individual care and treatment. So far, no generalizations can be made, nor can definite results be promised. They depend on the reaction of the patient and the adaptation to each case of the quality of ray necessary to it. Leonard reports as apparently cured patients with tic douloureux, chronic migraine and facial neuralgia. These were chronic cases and the patients had remained free from pain from one to two years after treatment. In one or two cases palliative results alone were observed. He concluded that although these cases are possibly too few and of too short standing from which to deduce any valuable conclusions, they at least demonstrate that in certain conditions of intolerable pain this agent can relieve and produce apparent cures that persist for a considerable length of time. Although it can not be stated definitely which particular classes of patients will be benefited, he states that there is at least a prospect of temporary relief for all, and a probability that a further development of technic will increase the number of cases in which permanent results can be secured. Neuralgias, he believes, are not the only painful conditions that can be relieved by this agent, for articular pain, as seen in gout and rheumatism, even after deformity and stiffening has taken place, in many cases can be permanently relieved, while the pain certainly can be decreased.

4. **Traumatic Cerebral Diabetes.**—Seifert reports a case in a boy of 16 who fell down a 12-feet elevator shaft, striking the floor head first, excoriating the skin over the right frontal and molar regions. He was unconscious one hour, stupefied seventy-two hours. Urinalysis made in less than twelve hours after the accident showed specific gravity 1,036; sugar, albumin and blood present. Daily analysis revealed the presence of sugar for eleven days longer. The patient took an easy job sixty days after the injury, remaining at work for almost two years; then the gradually increasing debility, emaciation, polyuria and depression of spirits induced him to seek medical advice. At that time there was a daily output of between seven and thirty pints of urine, and sugar varied from a trace to 7 per cent. The symptom complex grew more marked daily. In spite of all therapeutic measures the prognosis is becoming graver from day to day. The patient is now nearly 20 years of age and in a deplorable physical condition.

Medical Record, New York.

July 8.

7 Determination of Intestinal Functions by a Test-Regimen. H. Stern, New York.
8 History and Work of the Bedford Sanitarium for Consumptives. A. Meyer, New York.
9 *Gastric Ulcer in Children. W. L. Stowell, New York.
10 Surgical Aspects of Gallstone Disease. J. Wiener, Jr., New York.
11 *Observations on a New Method of Eliciting the Extensor Plantar Reflex, and Its Spinal Localization. Wm. C. White, Indianapolis, Ind.
12 Nevus Pilosus Pigmentosus and Other Skin Lesions Treated with Liquid Air. W. B. Trimble, New York.

9. **Gastric Ulcer in Children.**—Stowell was called to see a girl aged 8, who was found presenting the appearance of one dying from pneumonia. The epigastrium was hard and tender to pressure, and the abdomen was moderately distended. The day before she had complained of pain in the stomach with weakness and pallor, and she died after two hours of delirium during the night of the day when seen by the author. A partial autopsy was performed and two perforated ulcers, each about one-eighth of an inch in diameter, were found on the posterior surface of the stomach, about two inches from the pylorus on the lesser curvature. Abstracts of thirty-five case histories are given, which Stowell states is the list of published cases of gastric ulcer in children. The symptomatology and treatment of the condition are discussed, the principles being the same as in adults, and it is stated that the prognosis does not depend on age, three-quarters of the total number of patients recovering on proper treatment. The paper closes with a statistical table on gastric ulcer in general.

11. **New Method of Eliciting the Extensor Plantar Reflex and Its Spinal Localization.**—White refers to the value of Babinski's sign of extension of the great toe on stroking the sole of the foot in disease of pyramidal tracts, and describes a new method of eliciting the reflex. This consists in stroking the inner side of the front of the thigh. The response to the irritation is at times confined to the extension of the great toe, at times to extension of all the toes, and, occasionally, when Babinski's sign is present, but no reflex can be excited by the methods of Oppenheim or Gordon, White's sign is very distinct. In a case of hemiplegia, with complicating edema all four reactions were present at first, but when the edema developed the Oppenheim and Gordon responses disappeared, but irritation of the sole of the foot and the front of the thigh gave a definite extension of the great toe. The spinal localization of these reflexes is also discussed, and it is stated that as the extensor longus hallucis is represented in the anterior horn of the fifth lumbar segment, it is evident that from the wide district concerned in the production of the reflex, it must be possible to reach this portion of the cord.

Medical News, New York.

July 8.

13 Etiology, Diagnosis and Treatment of Benign Stenosis of the Pylorus. G. E. Brewer, New York.
14 Case of Peptic Ulcers After Gastroenterostomy Causing Gastrocolic and Jejunocolic Fistulæ, and of Spontaneous Closure of Gastroentero Anastomosis. J. Kaufmann, New York.
15 Observations on the Relations of the Gastrointestinal Tract to Nervous and Mental Diseases. R. C. Kemp, New York.
16 *Syphilis of the Liver, Sclerogummatous type. J. Funke, Philadelphia.
17 Sudden Blindness Following Orbital Injuries. H. B. Decherd, Galveston, Texas.
18 Sexual Necessity. E. L. Keyes, New York.
19 Social Prophylaxis and the Church. H. A. Brann, New York.

16. **Syphilis of the Liver.**—Funke relates the following interesting findings in a liver obtained at autopsy at the Philadelphia Hospital:

The liver lacked 1 cm. of reaching the costal margins in the midclavicular line, it was slate-colored, but had a distinct greenish tinge; scattered over its external surface were many round or oval grayish areas, varying from 2 to 4 mm. in diameter. They were apparently beneath the capsule, which seemed involved; when incised they were found to extend into the parenchyma of the organ, as far as could be determined, to a distance of from 2 to 4 mm. Over the external surface 5 cm. to the right of the suspensory ligament were two depressed grayish-white lines running nearly parallel with that structure; they were both 4 mm. in width; one measured 2.5 cm. in length and the other 1 cm. The organ was found to resist the knife and the cut surface was studded with nodules similar to those described as being present under the capsule. They resembled miliary tubercles in every respect, although it was quite impossible to remove what appeared to be caseous centers. The peripheries of many of the lobules were easily outlined and were slightly depressed; the depressed parts were grayish-white in color and resembled fibrous tissue. The greenish tinge was more pronounced on the cut surface than on the external portion of the organ, giving the parenchyma a granular appearance. Near the transverse fissure of the organ was a fibrous mass having a dimension of 1 by 2 cm., which incorporated the bile passages but did not impinge on the vessels. A probe introduced at the ampulla of Vater would extend as far as the juncture of the hepatic and cystic ducts, where it met with an obstruction and on dissection of the common duct the lumen was found occluded by the fibrous mass already mentioned. On further dissection the cystic duct also was occluded; the right hepatic could not be traced, but the left branch passed near the margin of the fibrous mass. The fibrous nodule extended into the liver for a distance of 1 cm. At no point in the growth could either duct or liver substance be identified, apparently it was fibrous throughout and distinctly circumscribed. The greatest diameter of the gall bladder was 7.5 cm.; the organ reached 19 cm. below the margin of the liver; was elastic and apparently filled with fluid, but the distension was so marked that fluctuation could not be elicited. At the junction of the gall bladder with the liver was a mass of cicatricial tissue which formed firm adhesions between the two organs. The scar was pinkish red in color and very rough. The gall bladder was found to contain 225 c.c. of a slightly clouded grayish-tinged fluid; the mucous membrane was covered by a grayish-white semisolid mucigenous substance; when the latter was removed the exposed mucosa was pale and smooth. The walls of the gall bladder were extremely thin, scarcely 2 mm. in thickness. The peritoneal cavity contained 150 c.c. of a straw-colored fluid.

Boston Medical and Surgical Journal.

July 6.

20 Collaboration in Medical Education. C. J. Blake, Boston.
21 Research into the Causes and Antecedents of Disease, Its Importance to Society. T. Smith.
22 *Improvement in Treatment of Diabetes Mellitus. E. P. Joslin, Boston.
23 Treatment Room for Epileptics. E. Flood, Palmer, Mass.

22. **Improvement in Treatment of Diabetes Mellitus.**—Joslin states that the improvement in the treatment of diabetes in the last ten years is undoubted, and attributes it in great measure to the substitution of facts for guesswork in diagnosis. One of the greatest advances is that in quantitative analysis of the urine. Of almost equal importance is the examination of the twenty-four-hour quantity of urine instead of a single specimen. Joslin states that the knowledge of the amount of carbohydrates in the diet of diabetic patients was practically unknown ten years ago. At that time the only attempt to determine the amount of carbohydrates in the diet of these patients was directed to the exposure of the starch in gluten flour. He states that it is a great gain to medicine that to-day it is known that bread and cereals contain 60 per cent. carbohydrates; potatoes and bananas, 20 per cent.; grape fruit and oranges, from 4.5 to 10 per cent., and milk from 3 to 5 per cent. The physician by the more accurate knowledge of the severity of the disease, becomes less easily discouraged in its treatment. One can not expect to arrest the case of diabetes in which the tolerance is less than nil any more than one can arrest a tuberculous process which has reached the cavity stage. The urine must be rendered free from sugar, and to do this especial attention must be paid to the diet. This may be obtained by the withdrawal of the carbohydrates. It may be necessary also to limit the quantity of albumin ingested. If this does not suffice the patient must be put on a strict vegetable day, and occasionally a starvation day will be necessary. When once the urine has been freed from sugar the patient should be kept on the same diet by which this has been attained for several days, then cream may be added to the diet, and later milk. Joslin says that a diabetic diet is really a diet in which the carbohydrates are replaced by fat. It is necessary for the diabetic individual to eat from two to five times as much fat as usual. Comparatively little of this fat can be taken as meat, and this necessitates the use of much cream, butter and oil. The diabetic's chance for life depends on his ability to eat fat and consequently great care must be exercised not to prejudice him against its digestibility. It is well to remember that fat is very well digested as a rule if taken in the form of milk-fat or oil. Not over 5 per cent. remains unassimilated, and this rule holds good for diabetics except in one of those most rare cases of marked pancreatic disease. Drugs do not permanently increase the tolerance for carbohydrates. Circumstances may arise in the course of diabetes just as in any chronic disorder when they are indicated, but there are as yet no specific remedies. The treatment of coma, Joslin states, is chiefly preventive.

New York Medical Journal.

July 8.

25 Bronchoscopy for Removal of Foreign Bodies from the Lungs. E. F. Ingals, Chicago.
26 Primary Jugular Bulb Thrombosis in Children as a Complication of Acute Purulent Otitis Media. J. F. McKernon, New York.
27 Six Lectures on the Diseases of the Blood. J. M. Swan, Philadelphia.
28 *Early Detection of Uterine Carcinoma. D. H. Craig, Boston, Mass.
29 Incidence of Pulmonary Tuberculosis in Large Families. H. L. Snively, New York.
30 Symptomatology of Acute Otitis in Children. C. G. Kerley, New York.
31 Interesting Coroner's Cases. P. F. O'Hanlon, New York.
32 Widal's Reaction for Typhoid Fever. P. Shekwana, Iowa City, Iowa.

28. **Early Detection of Uterine Carcinoma.**—Craig makes the emphatic statement that there is no characteristic first or early symptom of uterine carcinoma either of the cervix or of the body. He sent to many surgeons a list of questions concerning cancer patients and the replies showed that in 45 cases the first symptom was a leucorrhea, which in itself was in no wise characteristic. In 21 cases the first symptom was bleeding, varying from a slight staining to profuse flowing. In 12 cases pain was the first symptom preceding both leucorrhea and bleeding. Pain as an initial symptom appeared slightly more often in cancer of the uterine body, but not with sufficient emphasis to be considered characteristic or pathognomonic. Leucorrhea had existed previous to the onset of the illness in 33 cases and had not so existed in an exactly equal number. In 9 cases no satisfactory answer was obtainable. This pre-existing leucorrhea had undergone a noticeable augmentation before becoming blood-stained in 42 cases, including both classes of cases with leucorrhea, namely, those which started with leucorrhea and those having had a pre-existing discharge. The bleeding began in from six weeks to one year before examination, with an average duration of six months. Pain was entirely absent in 36 cases and in 35 cases in which it was a noticeable factor, it had been slight in 18 cases for periods varying from three weeks to one year, and severe in 17 cases from two months to one year. Thirty-six cases were too far advanced to admit of more than palliative operation and radical operation was advised or performed in 42 cases. In 42 cases the cancer was in the cervix; in 30 cases in the body, and in 6 cases not stated. As is seen by the statistics, no one symptom can be regarded as characteristically the first symptom of uterine cancer, and Craig therefore emhasizes the necessity of making a thorough examination of the pelvis both bimanually and with the speculum in every patient having pelvic symptoms.

California State Journal of Medicine.

June.

33 Tendon Transplantation. F. Lange, Munich.
34 Three Cases of Infradiaphragmatic and One of Supradiaphragmatic Aortic Aneurism. C. M. Cooper, San Francisco.
35 *Analysis of Fifteen Cases of Operation for Cancer of the Breast. T. W. Hutchinson, San Francisco.
36 State Hospital Sanitation. E. A. Kelley, Agnew.
37 Medical Inspection of Schools. E. von Adelung, Oakland.
38 Medullary Narcosis. Geo. W. J. Fowler, Santa Clara.
39 Plea for the Druggist. J. H. Mallery.
40 Why Should Roentgology Be Practiced Only by the Physician? W. [illegible] Francisco.
41 Fatty [illegible] eart. P. M. Lusson, San Jose.
42 Radica [illegible] or Chronic Suppuration of the Midd [illegible] San Francisco.
43 Clinical Findings Usually Overlooked in Mucomembranous Enterocolitis. J. J. Gaynor, Eureka.

35. **Cancer of the Breast.**—An analysis is given by Huntington of 15 cases of breast cancer operated on since 1896. Of the 15 individuals 13 were married and 2 were single. Ten had children. The oldest patient was 74 years; the youngest, 32. One person was under 40; eight were between 40 and 50.

In 9 the left and in 6 the right breast was involved. In every case the axillary glands were unmistakably implicated. In the first two cases the breast and axillary glands were removed through a continuous incision. The pectoral muscles were left intact. Both these patients are dead. The remaining 13 patients were subjected to the full Halstead operation. Nearly full arm function was noted in every case. The diagnosis in every instance was confirmed by microscopic examination. Wound infection occurred in one case after primary operation, and fatal infection occurred in one case after secondary operation. Of the series 2 are dead, 6 from recurrence at the site of operation, and 4 from recurrence at a remote point. In these cases of recurrence the longest survival after operation was twenty-six months; the shortest, six months. The history of the cases is given in full.

St. Louis Courier of Medicine.

June.

45 Pulmonary Consumption. J. R. Briggs, Dallas, Texas.
46 Baby Incubators on the "Pike," Study of the Care of Premature Infants in Incubator Hospitals Erected for Show Purposes. J. Zahorsky, St. Louis.
47 Therapeutic Value of Lecithin in Infant Feeding. W. Koch, Columbia, Mo.
48 *Peculiar Cystoma. W. S. Deutsch, St. Louis.
49 Protozoan-like Bodies Described in Scarlet Fever. R. L. Thompson, St. Louis.

48. **Peculiar Cystoma.**—Deutsch reports a case of postrectal cystoma occurring in a woman aged 32. The tumor was about the size of a large cocoanut and apparently was of rectal origin, with colloid carcinomatous origin. The cyst contained a thick gluelike fluid. No hair or bone was found. The rectum was not interfered with, and the patient made a perfect recovery from operation.

Woman's Medical Journal, Toledo, Ohio.

May.

50 *[illegible] in Colorado. M. Hawes, Denver.
51 *[illegible] Water Drinking and Some of Its Dangers. [illegible]ago.
52 [illegible]erus, Acute. O. Wilson, Paragould, Ark.
53 *[illegible] Adenitis. M. C. Rice, Chicago.

50. **Tuberculous Woman in Colorado.**—According to Hawes, pulmonary tuberculosis is by far the most frequent form of tuberculosis seen in Colorado. It is practically the only form that originates there. Laryngeal tuberculosis ranks second; it is usually secondary to a pulmonary focus. The other forms are relatively much more infrequent than they are elsewhere. Sex becomes a factor by reason of the two functions of menstruation and parturition. Menstruation is affected by the malpositions of the uterus that are apt to be induced by hard and prolonged coughing spells. These malpositions are possibly more frequent in Colorado than elsewhere because the disease runs a longer course there. Other things being equal, the possibility of their occurrence is no contraindication to climatic treatment. The dangers of parturition are lessened by the more favorable hygienic surroundings. The secondary problems dependent on sex are: Age, social condition, pecuniary resources and temperament of the patient. Whether the patient must go alone, or whether she can have suitable care and companionship is the most important question of all, and is extricably interwoven with the other secondary sex problems. The early recognition of tuberculosis is of extreme importance in urging climatic change. The burden of this rests on the family physician, who is also best fitted to know the data that will enable him to decide the other non-medical questions. Hawes urges physicians not to advise climatic change for a tuberculous woman unless they have weighed well the minutest factors, social and medical.

51. **Therapeutic Use of Water Drinking.**—Eliza Root says that the advice frequently given to patients with poor elimination by physicians to drink plenty of water is dangerously indefinite. If the amount of water or fluids is abnormally increased, it must be gotten rid of, and to do this the heart is brought into greater action and the blood pressure in the arteries is disturbed. If there is a pre-existing impairment of the kidney or heart functions the results may be serious. Excessive water drinking may become a habit in the "nervous" who have heard that water drinking is a good thing. This extra effort on the part of the heart and blood vessels, and the continued flooding of the tissues will sooner or later cause, first hypertrophy and then dilatation of the heart. The stomach and intestines, especially the colon, will participate in the process of relaxation from repeated or continuous distension, and will also become dilated, bringing their own train of symptoms incident to gastroptosis and enteroptosis. The idea of reducing the labor of the heart by reducing the amount of fluids ingested has prevailed in the treatment of the incompetent heart for a long time, and ought to carry a lesson in taking fluids generally, in health or disease.

53.—See abstract in The Journal, Sept. 24, 1904, p. 908.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

June 24.

1 Harveian Oration. F. T. Roberts.
2 Uncertainty of Postmortem Evidence in Suspected Lead Poisoning. S. K. Alcock.
3 *Operation for Closure of Cleft Palate in Infants. T. Stoker.
4 Cleft Palate Operation Wounds, Healing by Second Intention. E. Owen.
5 Dwarfism and Infantilism. Wm. Calwell.
6 Induction of Labor, a Comparison of Some of the Methods with Notes of Five Recent Cases. J. S. Sheill.
7 *Spread of Cancer by the Thoracic Duct. N. Raw.

3. **Closure of Cleft Palate in Infants.**—Stoker gives the steps of the original Brophy operation for this condition and then states the modifications which he has found advisable. They are as follows: When performing the operation paring the edges of the palate should be deferred until the sutures have been inserted and the bones moved toward the middle line. The danger of hemorrhage is thus lessened. If it be found that the bones can not be brought together with reasonable effort, it is better not to pare the soft parts at this time, but to wait and to do it later when the bones are in apposition. Stoker relates cases illustrating this operation and showing what a good result may be obtained even in feeble and ill-nourished children.

7. **Spread of Cancer by the Thoracic Duct.**—Raw states that he has often observed that malignant disease of the glands of the neck occurs much more frequently on the left side than on the right, and that he has frequently seen cases of apparently primary cancer in these glands in people of middle or old age without any evident focus of infection such as cancer of the tongue, mouth esophagus or tonsils. He reports a case of primary carcinoma of the pancreas which came to autopsy. Postmortem showed that all the organs of the abdomen were healthy with the exception of the pancreas. In the chest the organs were found healthy with the exception of the lungs, which were edematous. The left side of the neck, comprising all the triangles, was involved in an irregular cancerous growth evidently originating in the deep part of the subclavian region. The thoracic duct near its termination was found involved in the cancerous growth and was greatly thickened and enlarged. Raw states that a more minute search in all cases of abdominal cancer would point to the spread to other viscera and to the lymphatics by means of the thoracic duct, and that he intends in the future to pursue this line of inqiury.

The Lancet, London.

June 24.

8 Harveian Oration. F. T. Roberts.
9 Carbohydrate Metabolism. F. W. Pavy.
10 *Gastroenterostomy for Carcinoma of the Esophagus and Its Results. T. P. Legg.
11 *Experiments on the Disinfection of Vibrio Choleræ Asiaticæ and Bacillus Dysenteriæ (Flexner) with Cyllin and Carbolic Acid. D. Sommerville.
12 Treatment of Ringworm of the Scalp by Means of the X-Rays. H. G. Adamson.
13 Polyarticular "Quiet Effusion." T. Battersby Johnson.

10. **Gastrostomy for Carcinoma of the Esophagus.**—Legg states that it should be remembered that at best gastrostomy is only a palliative measure. If it can be shown to be beneficial to the patient, and if the disadvantages are outweighed by the advantages, then the operation is to be strongly advised. The method which he uses is a modification of Frank's operation and is as follows:

The abdominal cavity is opened by a vertical incision two or three inches long, just to the left of the median line and beginning just below the eighth costal cartilage. A portion of the anterior wall of the stomach is selected as near the cardiac end as possible and brought out of the wound on the abdominal wall. A conical portion, with a base of about one and a half inches in diameter and from two to two and a half inches in length is formed so that it can be laid to the left of the incision on the outer surface of the abdomen without tension. To the apex of the cone, which should be made as near as possible to the lesser curvature, two guide sutures are passed through the serous and muscular coats, about half an inch apart. A second incision, parallel to the first and one and a half inches from it, is made through the skin over the outer part of the left rectus muscle. This incision is about an inch in length and opens the anterior layer of the sheath of the rectus, the muscular fibers being separated longitudinally for the same distance. A blunt dissector is passed from the second to the first incision through the fibers of the muscle, which is then separated into an anterior and posterior layer by moving the dissector in an upward and downward direction. The extent of the separation must be sufficient to allow the cone of the stomach to be drawn through the gap, traction being made on the guide sutures which have been passed from the first to the second incision, while the base of the cone is manipulated into the widest part of the gap—i. e., close to the first incision. By this maneuver the stomach cone becomes completely surrounded by muscle, and there are two distinct bends in it—viz., at the base and at the apex. As there is usually considerable traction on the cone and a tendency for it to retract, its length should be as great as possible, and at the second incision the apex should project about a third of an inch. It is a good plan to fix the apex to the sheath of the rectus and skin at once, in order to prevent the cone retracting. For this purpose four stitches, one on each side, one at the upper and one at the lower part, are enough. They involve the seromuscular coats of the stomach. The base of the cone is fixed along its exposed right margin to the right-hand margin of the parietal incision, the stitches taking up the serous and muscular coats of the stomach and the peritoneum with the posterior sheath of the rectus and some muscle fibers. Four or five are usually sufficient, and if any opening is left at the upper or lower end of the peritoneal incision this is closed in the usual way, the stomach being also caught up by the stitches if it is thought advisable to do so. In passing the stitches through the wall of the stomach, vessels must be avoided as the bleeding is troublesome. The superficial part of the wound is closed by interrupted stitches, which also unite together the anterior layer of the rectus sheath and the superficial fibers of that muscle. A collodion dressing is applied to the wound and the stomach is opened between the guide stitches, the aperture being made large enough to take a No. 9 or No. 10 red rubber catheter, which is kept in position by a stitch attaching it to the skin.

Legg claims that the important points in this method are: 1, that the cone of stomach is surrounded by muscle, and 2, *the length of the cone. The muscle acts as a sphincter* and effectually prevents the gastric contents from escaping, and therefore excoriation of the skin is absent. One of the most striking after-effects of the operation is the recovery of the power to swallow with ease and another is the improvement in the general health and condition of the patient. Legg reports a number of cases in which he has performed this operation, with favorable results.

11. Experiments on Disinfection of the Cholera Vibrio and the Bacillus of Dysentery.—*Sommerville relates some experiments* relative to the merits of certain disinfectants when applied directly to infected organisms. Care was taken to preserve uniformity in the conditions, such as time of contact of the disinfectant with the microbe; age of culture of the microbe used; constitution and *reaction of the medium;* vital resistance of the species of microbe used; quantity of disinfectant added to the culture; temperature of medication, and temperature and time of incubation. The following is the method of procedure:

"A virulent culture of *Vibrio choleræ asiaticæ* was procured and sown in bouillon rendered *slightly acid* to phenolphthalein, but neutral to litmus (*acidity equivalent* to 15 cubic centimeters normal NaOH per liter). A sample *of phenol* was standardized by bromin and a series of dilutions in *distilled and sterile* water was made. Into five sterile test tubes were placed respectively five cubic centimeters *of dilutions 1 in* 70, 1 in 80, 1 in 90, 1 in 100, and 1 in 110, and into each *of these serially* at intervals of exactly 30 seconds five drops of a 24-hours bouillon culture of *Vibrio choleræ* incubated at 37 C. were *deposited. Continuing* the 30 seconds interval a single loopful was removed in *turn from* each of the medicated cultures after careful shaking and sown in a bouillon tube. The platinum loop was *thoroughly sterilized* after each inoculation. All vessels, flasks, tubes, *pipettes, etc.*, used in making dilutions were also previously rigorously *sterilized. The medicated* culture tubes and bouillon tubes *during manipulation* were held in such oblique position that all extraneous *organisms floating* in the atmosphere were excluded: 30 bouillon tubes were thus inoculated, each at an interval of 30 seconds *later than* the previous. The room temperature averaged 16 C. *The inoculated* tubes were *then* removed to a 37 C. incubator for 48 hours, at the end *of* which *time* in this case nothing had grown. A *second series of* dilutions of phenol were tried with like result, the inoculated tubes being *allowed to* remain in the *incubator* for 72 hours.

Pure phenol in dilution *of 1 in 160* killed all the cholera organisms, but a *dilution of 1 in 165,* applied for two *and a half* minutes, allowed growth in seventy-two hours. Acidity of the bouillon *inhibited* the growth of the cholera organisms, but had no effect on the *Bacillus dysenteriæ* (Flexner).

Indian Medical Gazette, Calcutta.

June.

14 *[illegible] Madras. W. G. King.
15 [illegible] of Cataract. G. Albertotti.
16 [illegible] Roberts.
17 [illegible] Protozoal Hypotheses of Beriberi.

14. Malaria Prevention in Madras.—King says that the government, while approving *the measures directed against* mosquitoes by killing larvæ by means of kerosene and other substances, particularly *impresses on local bodies* the importance of undertaking *minor sanitary works* of a nature to *prove of permanent benefit in regard to* the removal of the breeding places of mosquitoes. He relates at some length the *manner of collecting* mosquitoes, of improving the ground, by means of irrigating, etc., and relates the work that has been *accomplished* by these means.

Journal of Tropical Medicine, London.

June 15.

18 *Plague in the British East African Protectorate. *Report No.* 1. J. A. Haran.
19 *Id. No. 2. Kisumu an Endemic Area. D. Milne.
20 *Plague in Siam. H. C. Highet.
21 Etiology and Pathology of Beriberi. H. Wright.

18. Plague in the British East African Protectorate.—*Haran states that* in Kisumu the disease in most cases has been of the bubonic type, two cases alone being *of the septicemic* variety. Invasion was marked by a rise of temperature, severe headache, staggering, thickened speech, rapid pulse, hurried breathing, epistaxis. Tender or enlarged glands either simultaneously appeared or very *quickly followed.* Rapidly ensuing delirium occurred, the tongue becoming *dry and brown* with the *advent of typhoid* symptoms. Hemorrhages were frequent with involuntary evacuation of bladder and rectum. *Death usually took place* within twenty-four hours of the onset. He relates the methods of disinfection used and his *ideas* of prophylaxis. He also mentions the part played by rats in the transmission of the disease.

19. *Kisumu an Endemic Area.*—Milne states that inquiries as to the previous existence of plague at Kisumu revealed the fact of a common knowledge *among the natives of a fatal* malady that had attacked the dwellers on the present site long before the advent of the white man. A *native gave an interesting account* of an epidemic which had *occurred many* years (probably about fifty) previously.

20.—*See abstract* in THE JOURNAL, July 8, 1905, *p. 115.*

Bristol Medico-Chirurgical Journal.

June.

22 *Symptoms of Cerebellar Tumors. J. M. Clarke.
23 Causes and Treatment of Baldness. H. Waldo.
24 Acne Vulgaris *and* Its Treatment. W. K. Wills.
25 Progress of Pharmacy and Pharmaceutical *Chemistry. O.* C. M. Davis.
26 Joint Swellings Simulating Gout and Rheumatism. R. L. Jones.
27 New Scheme for Infant Milk Depots. J. M. Fortescue-Brickdale.
27½ Sprue. C. Begg.
28 *Inebriety* and the So-called Cures. J. Stewart.

22. Symptoms of Cerebellar Tumors.—*Clarke lays emphasis* on two symptoms which he thinks are *often overlooked* as symptoms of *cerebellar tumors.* These are deafness and *tremor. Deafness in these cases generally takes the form of* impairment of hearing only and is unilateral, or at least more *marked on the side of the lesion. Deafness* may also be associated with tinnitus aurium. These auditory symptoms may precede by many months the pathognomonic symptoms of cerebellar tumor. In regard to tremor, he states that the cerebellum is one part of the *brain in which* a tumor may give rise to an *intentional* tremor. He gives the history of an interesting case in which there was a peculiar tremor which resembled that of disseminate sclerosis *in being* absent when the limb was at rest and *supported,* and becoming very evident *on motion.*

Dublin Journal of Medical Science.

May.

29 Intramuscular *Injection of* Mercury in Treatment of Syphilis. H. FitzGibbon.
30 *[illegible] *in Children.* C. G. Cumston.
31 [illegible] Hernia. W. Taylor.
32 [illegible] *H.* T. Bewley.
33 Sequel to Case of *Innominate* Aneurism Reported in 1898. J. Craig.
34 Earth Temperature *and Diarrheal* Diseases in Dublin During 1904. J. W. Moore.

30. **Suprapubic Cystotomy in Children.**—Cumston calls attention to the frequency of vesical calculi in children and emphasizes the advantages of the suprapubic operation. He says that in children the anatomic situation of the bladder singularly facilitates this method of operation. The bladder is in direct contact with the abdominal wall and against the posterior aspect of the os pubis, thus partially filling the prevesical space. In children, consequently, the surgeon will hardly be able to wound the peritoneum during this operation.

Annales de l'Institut Pasteur, Paris.

Last indexed XLIV, page 1814.

35 (XIX, No. 5.) *Etude d'une variété d' infection intestinale chez le nourrisson (in infants). H. Tissier.
36 Controle de la valeur des vaccins jennériens par la numération des éléments virulents. C. Guérin.
37 Nature des éléments cellulaires du colostrum et du lait chez la femme (of human milk). V. Wallich and C. Levaditi.
38 Essai d'immunisation par la voie gastro-intestinale contre la toxine botulique. A. Tchitchkine.
39 *Coloration des protozoaires. G. Giemsa (Hamburg). Id. F. Marino.

35. **Treatment of Infantile Intestinal Infection.**—Tissier describes in detail a number of cases of a certain variety of intestinal infection in infants for which he seems to have evolved a successful method of treatment. The microscope revealed the constant presence in the stools of a strictly anaërobic bacterium, a mixed proteolytic ferment, the *Bacillus perfringens*, which has a powerful fermentative action. None of the other bacteria isolated from the stools had a mixed proteolytic action; they were all peptolytic ferments. He endeavored to arrest the proliferation of this *Bacillus perfringens* in the intestine by utilizing the antagonistic action of other bacteria. Mixed ferments, by producing acids, check the simple ferments, and the mixed ferments arrest their own proliferation when the acid production reaches a certain height. He cites as an instance that the putrefaction of meat can be arrested and all microbian action paralyzed by adding a small amount of glucose to the medium. Consequently, he reasoned that the digestive disturbances caused by the proliferation of this proteolytic bacterium could be arrested without injury to the mucosa by favoring the cultivation of the powerful mixed ferments, substituting for the harmful microbian vegetation another, more innocent one. This can be done by modifying the chemical constitution of the medium and by inducing the reappearance of the normal bacterial flora. The chemical composition of the medium can be modified by having nothing pass into the intestines but carbohydrates, with the smallest possible proportion of proteid substances. Sugars, starches and fats should abound, and the albuminoids should be entirely suppressed or substituted by merely enough proteids to sustain life. The simplest way to insure that the flora consists exclusively of mixed peptolytic ferments is to have the patient ingest pure cultures of these species, merely refraining from giving one that induces the formation of gas, indol, phenol, or an irritating acid. The one to be preferred must grow in a medium without oxygen, and must generate more acid than the harmful variety. Among the species which fulfill these conditions the *Bacillus bifidus* and the *Bacillus acidiparalactici* take the lead. He selected the latter for the purpose, as it is an anaërobe very easy of cultivation. It proliferates readily in the human intestine, and favors the reappearance of the *Bacillus bifidus*. This method of treatment consequently aims to transform the flora of the intestine and abandons the vain attempt to realize antisepsis in the intestines. The first step is to modify the food. If the bottle is used, pure cow's milk is stopped for a time, and glucose, saccharose, lactose, starch or other carbohydrates are given instead. At the end of a few days, a small amount of maternalized or peptonized milk is added to the diet. When the infant is on a mixed diet, cow's milk is suppressed and its place filled by carbohydrates. When the child is exclusively breast fed, the mother must aim to modify her milk by living on vegetables and by increasing the amounts of fats and sugars taken. Before each meal, the child should be given a tablespoonful of a 10 per cent. solution of lactose. By these means the chemical composition of the medium is modified. The second indication is met by giving the infant one or two teaspoonfuls a day of a pure culture of *Bacillus acidiparalactici*, which has been kept in the incubator for five or six days at a temperature of 37 C. (98.5 F.) Gradually all the symptoms subside, and the reappearance of the normal intestinal flora indicates the complete cure. This variety of intestinal infection can be differentiated by its protracted course of one or two months, by the appearance of the stools which are a greenish yellow fluid, holding fine greyish-green lumps in suspension, and foamy from the gas emitted with them. The stools turn olive green on exposure to the air. The children act sick, lose appetite, and the usual measures, calomel, etc., have no influence on the condition. The younger the child the severer the symptoms, as a rule. Bacteriologic examination of the stools enables an early diagnosis. The microscope shows that the *Bacillus bifidus* is absent, while half a dozen or more abnormal species can be detected. They are all of the peptolytic ferment type, except the *Bacillus perfringens*. The details of a number of cases successfully treated on the above principles are given in full. This treatment has been tried also by other physicians, and all confirm its absolute harmlessness and complete success. Prompt bacteriologic differentiation is important, as inappropriate treatment may prolong and aggravate the affection. A change from breast milk to cow's milk is liable to transform a generally benign affection into a fatal illness. In one of his cases the parents insisted on giving calomel. Immediately afterward the symptoms that had been nearly conquered reappeared in their former intensity, and the *Bacillus bifidus*, which had made its appearance again in the stools, vanished anew. The mother of a healthy nursling gave the breast to one of the sick children, with the result that in a week her own child developed the same symptoms.

39. **Stain for Protozoa.**—Giemsa has modified his staining technic (mentioned on page 1879 of the last volume of The Journal). He now uses a mixture made as follows:

℞. Azure II-eosin ....grs. xlv 3
Azure II..............................gr. xii 8
Glycerin
Methyl alcohol, āā......................℥viiss 250

The glycerin takes up more of the stain than a watery solution, and this excess insures fine coloring, while the preparation keeps well. One drop of this mixture is added to each c.c. of water, and the specimens are left in this fluid for fifteen to thirty minutes. They are then rinsed well, dried in the air and mounted in balsam. If haste is an object, the specimens can be fixed in methyl alcohol for two or three minutes or in a 10 per cent. alcohol solution of formalin for ten seconds. In this case, the fixation and staining can all be done in from ten to fifteen minutes.

Archiv f. Gynäkologie, Berlin.

Last indexed XLIV, page 1968.

40 (LXXV, No. 3.) Vergleichend histologische Untersuchungen über das Vorkommen drüsiger Formationen im interstitiellen Eierstocksgewebe (interstitial gland of the ovary). L. Fraenkel.
41 Ueber hämorrhagische Adeno-Cystome der Ovarien. O. Schaeffer.
42 *Die intra-abdominellen Druckverhältnisse (pressure relations). H. Hörmann.
43 Bildung von Psammom-Körpern im carcinomatösen Uterus. Schütze.
44 *Artificial Premature Delivery for Contracted Pelvis.—*Die primären und die Dauer-Erfolge der künstlichen Frühgeburt bei engem Becken.* Scheffczyk.
45 *Can Incipient Glandular Carcinoma of Uterus Be Cured by Curetting?—Ist durch die Abrasio eine Dauerheilung des beginnenden glandulären Uteruscarcinoms zu erzielen? W. Vassmer.
46 Spontaneous Laceration of a Pregnant, Septic Infected Diverticulum in Uterus.—Spontane Zerreissung der Gebärmutter in einem schwangeren, septischen inficirten Uterus-Divertikel. H. Hellendall.
47 Instrumental Dilatation Can Be Recommended to the General practitioner. F. Lichtenstein (Leopold's clinic, Dresden). Reply to Dührssen.

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72 Recent Work on Diagnosis of Death from Drowning.—Zur Diagnose des Ertrinkungstodes. H. Marx.

30. **Suprapubic Cystotomy in Children.**—Cumston calls attention to the frequency of vesical calculi in children and emphasizes the advantages of the suprapubic operation. He says that in children the anatomic situation of the bladder singularly facilitates this method of operation. The bladder is in direct contact with the abdominal wall and against the posterior aspect of the os pubis, thus partially filling the prevesical space. In children, consequently, the surgeon will hardly be able to wound the peritoneum during this operation.

Annales de l'Institut Pasteur, Paris.

Last indexed XLIV, page 1814.

35 (XIX, No. 5.) *Etude d'une variété d' infection intestinale chez le nourrisson (in infants). H. Tissier.
36 Controle de la valeur des vaccins jennériens par la numération des éléments virulents. C. Guérin.
37 Nature des éléments cellulaires du colostrum et du lait chez la femme (of human milk). V. Wallich and C. Levaditi.
38 Essai d'immunisation par la voie gastro-intestinale contre la toxine botulique. A. Tchitchkine.
39 *Coloration des protozoaires. G. Giemsa (Hamburg). Id. F. Marino.

35. **Treatment of Infantile Intestinal Infection.**—Tissier describes in detail a number of cases of a certain variety of intestinal infection in infants for which he seems to have evolved a successful method of treatment. The microscope revealed the constant presence in the stools of a strictly anaërobic bacterium, a mixed proteolytic ferment, the *Bacillus perfringens*, which has a powerful fermentative action. None of the other bacteria isolated from the stools had a mixed proteolytic action; they were all peptolytic ferments. He endeavored to arrest the proliferation of this *Bacillus perfringens* in the intestine by utilizing the antagonistic action of other bacteria. Mixed ferments, by producing acids, check the simple ferments, and the mixed ferments arrest their own proliferation when the acid production reaches a certain height. He cites as an instance that the putrefaction of meat can be arrested and all microbian action paralyzed by adding a small amount of glucose to the medium. Consequently, he reasoned that the digestive disturbances caused by the proliferation of this proteolytic bacterium could be arrested without injury to the mucosa by favoring the cultivation of the powerful mixed ferments, substituting for the harmful microbian vegetation another, more innocent one. This can be done by modifying the chemical constitution of the medium and by inducing the reappearance of the normal bacterial flora. The chemical composition of the medium can be modified by having nothing pass into the intestines but carbohydrates, with the smallest possible proportion of proteid substances. Sugars, starches and fats should abound, and the albuminoids should be entirely suppressed or substituted by merely enough proteids to sustain life. The simplest way to insure that the flora consists exclusively of mixed peptolytic ferments is to have the patient ingest pure cultures of these species, merely refraining from giving one that induces the formation of gas, indol, phenol, or an irritating acid. The one to be preferred must grow in a medium without oxygen, and must generate more acid than the harmful variety. Among the species which fulfill these conditions the *Bacillus bifidus* and the *Bacillus acidiparalactici* take the lead. He selected the latter for the purpose, as it is an anaërobe very easy of cultivation. It proliferates readily in the human intestine, and favors the reappearance of the *Bacillus bifidus*. This method of treatment consequently aims to transform the flora of the intestine and abandons the vain attempt to realize antisepsis in the intestines. The first step is to modify the food. If the bottle is used, pure cow's milk is stopped for a time, and glucose, saccharose, lactose, starch or other carbohydrates are given instead. At the end of a few days, a small amount of maternalized or peptonized milk is added to the diet. When the infant is on a mixed diet, cow's milk is suppressed and its place filled by carbohydrates. When the child is exclusively breast fed, the mother must aim to modify her milk by living on vegetables and by increasing the amounts of fats and sugars taken. Before each meal, the child should be given a tablespoonful of a 10 per cent. solution of lactose. By these means the chemical composition of the medium is modified. The second indication is met by giving the infant one or two teaspoonfuls a day of a pure culture of *Bacillus acidiparalactici*, which has been kept in the incubator for five or six days at a temperature of 37 C. (98.5 F.) Gradually all the symptoms subside, and the reappearance of the normal intestinal flora indicates the complete cure. This variety of intestinal infection can be differentiated by its protracted course of one or two months, by the appearance of the stools which are a greenish yellow fluid, holding fine greyish-green lumps in suspension, and foamy from the gas emitted with them. The stools turn olive green on exposure to the air. The children act sick, lose appetite, and the usual measures, calomel, etc., have no influence on the condition. The younger the child the severer the symptoms, as a rule. Bacteriologic examination of the stools enables an early diagnosis. The microscope shows that the *Bacillus bifidus* is absent, while half a dozen or more abnormal species can be detected. They are all of the peptolytic ferment type, except the *Bacillus perfringens*. The details of a number of cases successfully treated on the above principles are given in full. This treatment has been tried also by other physicians, and all confirm its absolute harmlessness and complete success. Prompt bacteriologic differentiation is important, as inappropriate treatment may prolong and aggravate the affection. A change from breast milk to cow's milk is liable to transform a generally benign affection into a fatal illness. In one of his cases the parents insisted on giving calomel. Immediately afterward the symptoms that had been nearly conquered reappeared in their former intensity, and the *Bacillus bifidus*, which had made its appearance again in the stools, vanished anew. The mother of a healthy nursling gave the breast to one of the sick children, with the result that in a week her own child developed the same symptoms.

39. **Stain for Protozoa.**—Giemsa has modified his staining technic (mentioned on page 1879 of the last volume of The Journal). He now uses a mixture made as follows:

℞.	Azure II-eosin	grs. xlv	3	
	Azure II	gr. xii		8
	Glycerin			
	Methyl alcohol, āā	℥viiiss	250	

The glycerin takes up more of the stain than a watery solution, and this excess insures fine coloring, while the preparation keeps well. One drop of this mixture is added to each c.c. of water, and the specimens are left in this fluid for fifteen to thirty minutes. They are then rinsed well, dried in the air and mounted in balsam. If haste is an object, the specimens can be fixed in methyl alcohol for two or three minutes or in a 10 per cent. alcohol solution of formalin for ten seconds. In this case, the fixation and staining can all be done in from ten to fifteen minutes.

Archiv f. Gynäkologie, Berlin.

Last indexed XLIV, page 1968.

40 (LXXV, No. 3.) Vergleichend histologische Untersuchungen über das Vorkommen drüsiger Formationen im interstitiellen Eierstocksgewebe (interstitial gland of the ovary). L. Fraenkel.
41 Ueber hämorrhagische Adeno-Cystome der Ovarien. O. Schaeffer.
42 *Die intra-abdominellen Druckverhältnisse (pressure relations). H. Hörmann.
43 Bildung von Psammom-Körpern im carcinomatösen Uterus. Schütze.
44 *Artificial Premature Delivery for Contracted Pelvis.—Die primären und die Dauer-Erfolge der künstlichen Frühgeburt bei engem Becken. Scheffczyk.
45 *Can Incipient Glandular Carcinoma of Uterus Be Cured by Curetting?—Ist durch die Abrasio eine Dauerheilung des beginnenden glandulären Uteruscarcinoms zu erzielen? W. Vassmer.
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54 *Zur Radical-Behandlung der Blasen-Ectopie. G. Muscatello.
55 Harnleiter-Hernia (of ureter). A. Carli.
56 *Endotheliome der Haut (of skin). H. Coenen.
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63. **Elimination of Indican Through the Skin.**—Gans reviews four cases from the literature in which patches of a bluish stain on the skin were found to be due to the elimination of indican. In one instance, attention was attracted to the condition by bluish stains on the pillow cases. He reports a case personally observed. The patient was a woman of 35, who noticed, while taking a Carlsbad course for constipation, meteorism and lassitude, that her body linen was covered with fine blue spots immediately after a menstrual period. The linen looked like an example of what is called "spatter work." A few fresh blue spots were found every day for several months, most numerous during the menses. They then vanished for a year until during a time of great anxiety they reappeared, but afterward vanished permanently. During the time when the blue spots were most numerous a proportion of .026 to .035 per thousand of indican was found in the urine. Chemical examination showed the blue spots to be due to indigo.

64. **Curative Action of Magnetic Field.**—Krefft protests against the limitation of the term radiotherapy to Roentgen treatment alone. It should include all measures that utilize rays or lines of energy emanating from any source. He would apply the term also to treatment by exposure to the magnetic field of an electromagnet. He thinks that this offers great prospects of success in treating rebellious neuralgias, rheumatic, gouty and tabic pains, the insomnia of neurasthenia, etc. Irritable conditions in the heart and intestines also respond favorably to the action of the magnetic field. He calls it the "physical morphin." What it lacks in reliability for all cases it makes up by its absolute harmlessness.

67. **Relief for Poisonous Trades.**—Lewin reviews what has been accomplished in various countries in the way of protecting the workmen in poisonous trades. When proprietors and workmen co-operate in preventive measures excellent results have followed, as he shows by statistics from certain mirror factories, the average percentage of days of illness from mercurial poisoning having fallen from 13.52 in 1885 to zero in 1891. He enters into details in regard to the preventive measures advisable for the various trades, and emphasizes especially the importance of adequately instructing the workmen in regard to the dangers of the trade. He believes that the inventive genius of the workmen would soon devise means to do away with some of the dangers if they were fully aware of them. Placards and circulars distributed to the workmen are scarcely heeded by them. Lewin thinks that instruction in these matters should be given in the graded schools, and be specialized in the manual training and technical schools; these measures to be supplemented by warning cards given to the workmen for them to read at leisure. These measures presuppose an expert to impart the necessary information and to write the circulars, etc., and these experts have yet to be provided and trained for the purpose. The success would probably be greater if the state took the matter in charge.

69. **Principles of Physical Re-education in Tabes.**—Frenkel's method of re-educating the muscular system in tabes has been widely adopted and has accomplished wonders in many cases. The prognosis of uncomplicated lumbar ataxia is rendered grave by the rapidly progressive atony of the abdominal musculature and intestines and the severe cystitis from the lack of active exercise of the parts. These serious complications are becoming rarer and rarer now, as also the paraplegic stage of tabes, owing to the advice to exercise the muscles instead of to rest them. Massage of the muscles is not beneficial, as he had at first supposed, and he now warns explicitly against it. The correct application of the "exercise therapy" requires a knowledge of the normal processes of movement in the parts. Its incorrect application is liable to do harm. He gives a comprehensive picture of the physiologic co-ordinated movements, and describes the technic of examining for disturbances in co-ordination and for their various kinds and degrees. The musculature in tabes is characterized by what he calls hypotony. The capacity for co-ordinated movements is primarily acquired by practice, and thus can be reacquired when lost. The pulse is apt to be increased by the exercise, even when it lasts only two or three minutes. It should be normal again before attempting another exercise. Another point to be borne in mind is the lack of the *sensation* of fatigue. He has had a patient who could hold his arms stretched out horizontally for twenty-two minutes without fatigue, notwithstanding that his arms were so much affected by the tabes that he could hardly feed himself. This lack of the sensation of fatigue imposes extra care on the physician, as he must be the judge of the proper duration of the exercise. As a rule, twice a day and not longer than from five to fifteen minutes at a time, and in the severer cases not longer than two or three minutes, should be the limit. Improvement follows in every case, but the amount depends on the length of treatment rather than on the degree of inco-ordination. Several months are generally necessary or else the patient falls back into his old habits. Even the severest cases, if uncomplicated, give a good prognosis with persevering treatment. Some of his patients, with complete loss of the power of standing or walking, had these faculties entirely restored after six to twelve months of treatment. Extreme hypotony may require orthopedic apparatus. The worst prognosis is afforded by cases complicated by attacks of protracted pain or by gastric or intestinal crises. Total blindness was always hopeless in his experience until recently, but within the last few years he has modified his technic to adapt it to these cases, with surprisingly favorable results. He does not enter into details here, but refers to a communication soon to appear, in which this new technic will be described.

70. **Balneotherapy in Affections of the Air Passages.**—Spiess adds another to the long list of articles on the subject of balneotherapy in its various applications with which our German exchanges have been teeming since the Congress of Balneology at Berlin in March. He remarks that catarrh of the upper air passages is almost inevitable in persons who snore. Such persons are usually corpulent, short-necked and constipated. Exercise, fresh air, a light diet and a course of mineral waters will accomplish wonders, reducing the tendency to snore and healing the catarrh. Incorrect use of the voice is another factor in maintaining a catarrhal condition of these parts. The time at the health resort might be utilized for training the voice in better habits.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

73 (XXXI, No. 22.) *Zur Technik der Kropf-Operation (goiter). Riedel.
74 Ueber einen unter dem Bilde einer Ophthalmoplegia externa verlaufenden Fall von traumatischer Hysterie. A. Westphal.
75 Zur Pathogenese [illegible]. E. A. Polya.
76 Case of Codein [illegible] Pelz.
77 *Zur Kasuistik [illegible] nach elektrischem Trauma. A. Raebiger.
79 *Epidemic of Edema in Prison.—Ueber die im Gefängnis [illegible] fern. R. Lenhoff and Levy-Dorn.
79 Epidemic of Edema in Prison.—*Ueber die im Gefängnis* Düsseldorf beobachteten Hautodeme unbekannten Ursprungs. Eschweiler.
80 Fall von traumatischer Lungengangrän. T. Kulenkamp.
81 Phototherapy with Ultraviolet Rays.—Lichtbehandlung mittels bestimmter Strahlengruppen. Axmann.

73. **Technic of Goiter Operations.**—Riedel's experience with 223 operations for goiter has convinced him that there is all the difference between day and night between local and general anesthesia for these operations. He describes his technic in detail, and urges that in families in which cancer is prevalent a goiter should be operated on very early. No one can protect himself against a sarcoma, he remarks, but a carcinoma in the thyroid usually develops on the basis of strumous degeneration. By prompt removal of such a thyroid, the danger of cancer later is very much reduced. If there is already cancerous degeneration, the patient is inevitably doomed, whether operated on or not.

77. **Nervous Affections After Electric Accidents.**—Raebiger's four patients presented symptoms suggesting hysteria, neurasthenia, hypochondria and a simple psychosis, all combined. They were telegraph operators and had been affected by a lightning stroke in the vicinity of their instrument or by the electric current through the wires. Treatment on the basis that the symptoms were merely nervous functional dis-

turbances resulting from the emotional shock of the accident soon cured one, but the condition persisted unmodified or recurred at intervals in the others.

78. Observations on Wrestlers.—The heart was not found enlarged in the wrestlers examined after the wrestling matches, not even after the most strenuous bouts, but slight fever and albuminuria were always noted. The amount of the temperature rise was proportional to the length of the contest and to the strength of the contestants.

79. Edema in Prison.—Eschweiler has observed seventeen cases in the last two years in which apparently healthy men, entering the prison, became affected with edema of the feet and legs. The edema gradually extended upward, involving the trunk and face, but diminishing in intensity as it rose. The men's work kept them long seated at small tables.

Münchener medizinische Wochenschrift.

82 (LII, No. 20.) *Ueber Hämolysin-Bildung und Agglutination der Staphylokokken. G. Fraenkel and Baumann.
83 *Explanation [illegible] Sublimate.—Zur Erklärung der [illegible] on Sublimat. Bokorny.
84 Beobachtungen [illegible] (measles). H. Bahrdt.
85 *The Punch Method of Treating Acne.—Die Heilung der Akne durch ein neues narbenloses Operationsverfahren: das Stanzen. Kromayer.
86 *Roentgen Treatment of Goiter.—Ein neues Feld für die Radiotherapie? (Strumen-Behandlung.) L. Görl.
87 *Treatment of Sweating Feet in the Army.—Zur Behandlung des Schweissfusses in der Armee. Fischer.
88 *Percutaneous Action of a Narcotic.—Ueber perkutane Wirkung eines Schlafmittels (Isopral). R. Foerster.
89 Kasuistischer Beitrag zur Hebotomie (extramedian symphyseotomy). F. Hammer.
90 Ein neues scherenformiges Perforatorium. M. Neu.

82. Hemolysin Formation and Agglutination of Staphylococci.—The research reported confirms the assumption that the pathogenic staphylococci form hemolysins and agglutinate readily, while the saprophytic group does neither.

83. Toxic Action of Sublimate.—Bokorny found that minute scraps of algæ were killed or injured by corrosive sublimate even in a 1 to 100 or 1,000 million dilution, while a large clump was not much affected by quite strong solutions. The action of sublimate is thus a quantitative chemical reaction. A certain amount of the protoplasm albumin requires a given amount of sublimate to destroy it. This proportion for the spirogyra is about one two-hundredth of its own weight.

85. Punch Method of Treating Acne.—Kromayer's rotation instruments or drills were described recently in these columns on page 141. Years of experience have confirmed his conviction that this mode of treating acne is superior to all others to date. It prevents the development of the affection in predisposed follicles, while it aborts and cures the already established disease without leaving a trace. The punch removes a little cylinder of flesh, and this relieves the tension of the parts and promotes absorption so that healing proceeds rapidly. Indolent processes, such as torpid tertiary syphilitic gummata and papules, long rebellious to various measures, can be rapidly stimulated to resorption and healing by the use of the punch.

86. Roentgen Treatment of Goiter.—Görl reports eight cases which demonstrate that the abnormal thyroid gland can be influenced by the action of the Roentgen rays. He noticed that the skin in these patients was exceptionally sensitive to the rays, and suggests that persons whose skin is particularly sensitive should be examined for possible struma. In one of his patients, the throat measured 40 cm., but subsided to 35 cm. after four exposures. In another, the throat measured 46.5 cm. and subsided to 45 cm. after four exposures. In a third, the throat subsided from 40.5 cm. to 35 cm. under two exposures. The patients were from 16 to 54 years of age. None of the exposures was longer than ten minutes; the distance was about 10 cm., and the intervals between the sittings were from four days to two or three weeks. [Thirteen more cases were reported by Stegmann of Vienna, in June, with equally favorable outcome. Two of the patients presented the Basedow symptoms.—ED.]

87. Treatment of Sweating Feet.—Fischer's remarks apply especially to military service. The feet should not be bathed, as this softens the skin and undoes the effect of the treatment. This consists in first rubbing off the feet with a 1 per cent. alcoholic solution of salicylic acid, and then dusting them with a powder containing formalin and the "fat powder" recently introduced into dermatologic practice. The feet and socks are dusted with the powder twice a day, and the skin soon dries and hardens. Insoles are not advisable. He adds that a wet boot dries much more rapidly if packed with hay or straw.

88. Percutaneous Action of a Sedative.—Foerster has found that it is possible to obtain the sedative action of a narcotic by merely rubbing it on the skin. He uses equal parts of castor oil and alcohol as the vehicle for three parts of the drug and applies it lightly to the skin, covering at once with rubber tissue. The smoothing and narcotic action of the drug was soon apparent.

Therapie der Gegenwart, Berlin.

Last indexed XLIV, page 583.

91 (XLVI, No. 1.) *Treatment of Capillary Bronchitis with [illegible] g der Kapillär-Bron- [illegible] O. Heubner (Berlin).
92 *Er [illegible] lulous abdomen). H. Quincke (Kiel).
93 *Cardiolysis und Pericardio-mediastinal Verwachsungen (adhesions). F. Umber (Altona).
94 Results of Suture of Bone in Fractures of Patella.—Erfolge der Knochennaht bei Kniescheibenbrüchen. F. Trendelenburg.
95 Einiges über die Lupustherapie der Zukunft und der Ver- [illegible] ure of Lupus Treatment.) P. G.
96 [illegible] ösung bei Syphilis (potassio- [illegible] F. Penzoldt (Erlangen).
97 * [illegible] Catarrh.—Schmerz-Anfälle bei chronischen Magen-Katarrh. I. Boas (Berlin).
98 *Eine weitere Indikation zur lokalen Anesthesie mittelsc Ethyl-Chlorid und Methyl-Chlorid. H. Fischer.

91. Treatment of Capillary Bronchitis with Mustard Water Packs.—Heubner ascribes a life-saving value to this procedure in many cases of capillary bronchitis where pulmonary circulation and the ingress of air is hindered by the swelling of the mucous membrane and the accumulation of inflammatory products in the bronchioles. The remedy acts by drawing the blood to the surface, thus lessening the amount of blood to be moved and diminishing the obstacle due to swelling of the mucous membrane. He describes his technic as follows: Five-tenths of a kilogram or more of mustard flour are stirred into an open dish containing 1.5 liters of warm water at 40 C. until irritating vapors are given off. (This is a little more than a pound of mustard in three pints of water at 104 F.) A linen cloth large enough to envelop the child is soaked in the liquid, wrung out, and spread out on a blanket of the same size. The naked child is laid on the mustard sheet, the upper edge on a level with the neck. It is drawn up, and over it the blanket is rapidly tucked around the neck and wrapped around the feet. This pack is left from 10 to 20 minutes, according to the vitality of the child. When removed from the pack, the whole body is red. The child is quickly placed in a warm bath or sponged with warm water in order to remove the particles of mustard still adhering to the skin. It is then put in a second pack of lukewarm water and left from one to two hours, if possible, in order to maintain as long as possible the hyperemia of the skin which has been secured. In many successful cases, the child looks like a scarlet-fever patient all day. While in the second pack, the temperature is liable to rise, and the child, therefore, should be under constant supervision, in order to interrupt the process if its head and face become red or as soon as it sweats thoroughly. A second warm bath is then given, and, in case the child is very hot, cold water may be quickly poured over it. The child is then wiped dry and left undisturbed for the rest of the day. Sometimes the crisis follows, with rapid convalescence, but more frequently a repetition of the process is required on the second or third day or later. It should not be applied, however, more than once in twenty-four hours. This process, like all others, fails in some cases. Where it is not successful in producing reddening of the whole surface of the skin it is better not to attempt to repeat it.

92. Enteroptosis and Pendulous Abdomen.—Quincke recognizes three causes for the displacement of the abdominal viscera: 1. Relaxation or stretching of the abdominal wall.

Change in the form of the cavity. 3. Stretching of one or more of the suspending ligaments. One test of the condition of the abdominal muscles is the change of position of the umbilicus on coughing when standing and when lying down. With a moderate degree of pendulous abdomen the umbilicus rises 1 cm. or more on coughing in the standing position, but not when reclining. This is a reliable index of the amount of the relaxation. The upper half of the rectus being relaxed, the umbilicus sinks. On coughing in the upright position, the upper half of the muscle contracts and raises the umbilicus. The intensity of the symptoms does not correspond to the degree of ptosis present. Very high degrees may exist without any symptoms; on the other hand, slight downward displacement may entail striking symptoms. Often the ptosis is so slight that it is not recognized. This is frequently important, because otherwise ineffectual treatment becomes successful when the abdominal wall is supported and strengthened. In many cases these measures alone are sufficient. To illustrate his statements, Quincke reports a number of cases, emphasizing the fact that in all disturbances dependent on enteroptosis an important point to bear in mind is that they appear pronounced in an upright position and on lying down become much diminished or vanish entirely. Often immediate relief will be obtained by supporting the abdomen below the umbilicus with the hand. Besides the ordinary symptoms, backache, sideache, and dyspepsia may be noted. The backache may be a radiation of the epigastric pain. It then corresponds to the lower thoracic vertebræ. In case of a large, fatty abdomen it may be due to fatigue of the sacrolumbalis muscle, since the displacement of the center of gravity toward the front necessitates correction by constant backward bending of the spine. The pain in the side may likewise be partly muscular, partly due to traction from the splenic flexure of the colon. The disturbances in breathing with pendulous abdomen may be easily overlooked, because the effect of pressure by the intrathoracic fat and the upward pressure of the diaphragm by the intra-abdominal fat attract more attention. Not only is the expiratory power lessened by loss of tone in the abdominal muscles, but the bottom of the thorax is dragged down with the sinking of the viscera, and the elastic pressure exerted by the bowels on the under surface of the diaphragm is still further reduced. The pressure may even be negative, as shown by the occasional sinking in of the epigastrium. The relations between the diaphragm and the ribs are disturbed in many ways, and this is liable to induce disturbances in breathing, from muscular fatigue. Ordinarily, this manifests itself by shortness of breath on exertion or even on standing up, less frequently, by attacks of dyspnea, distress and cardiac oppression. Sometimes a paroxysm of weakness and dizziness accompanies these sensations, and disturbances of the vascular tone from stretching of the splanchnic nerve may also play a part. The conceptions of enteroptosis and pendulous abdomen are not exactly identical, since with normal abdominal walls a single viscus may sink, while, on the other hand, mechanical pendulous abdomen, without the sinking of any viscus, may be occasioned merely by deposits of fat. Most cases of enteroptosis are accompanied by a more or less pendulous abdomen, and this is important for treatment. The insufficient abdominal muscles may be strengthened and the stretched abdominal walls supported with a bandage. Thus by pushing back the small intestine we may indirectly improve the position of the higher abdominal viscera. The abdominal support should be supplemented by doing away with every constricting band, the support for drawers and skirts, being partly or entirely transferred to the shoulders.

93. **Cardiolysis and Pericardio-Mediastinal Adhesion.**—According to Umber, adhesion of the two layers of the pericardium is a frequent complication of heart affections, but may be entirely latent so far as symptoms and effect on the heart action is concerned. Adhesion of the pericardium, as a whole, to the neighboring parts, and especially to the anterior wall of the chest, may be the cause of great impediment to the action of the heart, bringing about a lack of compensation which Brauer has successfully endeavored to remedy by resection of part of the chest wall. He has operated on three patients, to which Beck has added three more. Umber remarks that such an operation, which aims to free the heart from its fetters, is likely to yield good results only if the heart is still capable of function. When advanced degeneration of the heart muscle already exists, this cardiolysis would be useless. On this account, in determining the indications, Brauer laid weight on the circumstance that the systolic retraction of the chest wall must be very marked. Otherwise it would be questionable whether or not the heart, after its release, would be capable of maintaining compensation. Cases which meet fully all the indications for successful cardiolysis are rare. Umber reports an additional patient operated on with brilliant results. He noted a second diastolic sound which was synchronous with the rapid rebound of the chest wall. Since it persisted after removal of the bone, it can not be attributed, as Friedrich thinks, to vibration of the wall, but must be regarded as the work of the heart itself. This phenomenon of diastolic bulging of the chest wall, in connection with its systolic retraction, and the diastolic collapse of the cervical veins, is of the highest import for the recognition of the latent development of pericardio-mediastinal adhesion, in which such brilliant results can be attained by the operation of cardiolysis. The indications for operation should be determined after rest and appropriate treatment have shown that the heart muscle is still sound.

97. **Pain in Chronic Gastric Catarrh.**—Boas called attention long ago to the attacks of pain in chronic gastritis, especially in the atrophic form. These attacks are not so rare as sometimes believed. Boas recognizes two forms. The first, originally described by Einhorn, has exactly the same character as the pain of gastric hyperacidity. So far as the etiology of these gastralgias is concerned, he does not agree with Einhorn that the pain is due to mechanical irritation of the mucous membrane by the coarser particles of food which remain after the fluids have left the stomach. Otherwise it would be difficult to understand why there is not pain in all cases of severe gastritis, although it is well known that the severest forms of achylia gastrica may run their course without the slightest discomfort. He believes that Leo is right in ascribing the pain to the presence of small ulcers in the neighborhood of the pylorus. As evidence of this, he has often found occult blood in the feces and stomach contents. In chronic gastritis and in case of atrophy of the stomach mucosa, occult hemorrhage is one of the rarest phenomena. Another form of gastralgia may be observed which is distinguished by the fact that the pain occurs spasmodically, is more severe, is of a lancinating character, and is entirely independent of the kind of food or the time of taking it. This form, which is often observed in severe achylia gastrica, appears to be of nervous origin. It is probably connected with lesions of Meissner's plexus, the flat layer of nervous masses in the submucosa of the stomach and small intestine.

98. **Local Anesthesia for Suturing Wounds.**—Fischer uses a mixture of ethyl chlorid and methyl chlorid for spraying the raw surfaces and the lips of the cutaneous wound before suturing them.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Ophthalmic Neuromyology, *A Study of the Normal and Abnormal Actions of Ocular Muscles from the Brain Side of the Question.* By G. C. Savage, M.D., with 51 illustrations. Cloth. Pp. 221. Published by the author, Nashville, Tenn.

Second Biennial Report, or the Nineteenth and Twentieth Annual Reports of the State Board of Health of the State of Kansas, from Jan. 1, 1903, to December 31, 1904. Cloth. Pp. 181. Topeka, Kansas: George A. Clark, State Printer, 1905.

Surgeon Generals of the Army of the United States of America. By J. E. Pilcher, M.D., Ph.D., L.H.D. Cloth. Pp. 114. Price, $1.50 net. Carlisle, Pa.: Association of Military Surgeons, 1905.

Syllabus of Materia Medica. Compiled by W. Coleman, M.D. Second Edition. Cloth. Pp. 189. New York: William Wood & Co., 1905.

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Original Articles

CARCINOMA OF THE BREAST.

TEN YEARS' EXPERIENCE WITH MY METHOD OF RADICAL OPERATION.*

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NEW YORK.

On November 12th, 1894, I read a paper[1] before the section on surgery of the New York Academy of Medicine, entitled: "An Improved Method of Radical Operation for Carcinoma of the Breast." This paper—announced to the chairman of the section Oct. 10, 1894—gave a report of but one case operated on by the new procedure, (on Sept. 19, 1894), while the operation itself was briefly but fully described. The chief points were that the cancerous breast together with the underlying pectorales muscles as well as axillary glands and surrounding fat, were removed *in one mass,* and that the blood vessels were primarily ligated at their origin. The incision I used at that time began about one inch below the insertion of the pectoralis major muscle onto the humerus, traversed the axilla, surrounded the breast at its base and ended over the sternum, somewhat beyond the middle line of the body. In order fully to expose the structures below the clavicle, the upper skin flap was divided by an incision upward, perpendicular on the first, striking the clavicle at about its middle (Fig. 2). In cases of need this latter incision was carried into the supraclavicular space for the removal of glands in that region.

In the course of the last six years I have changed the direction of the external part of the incision and have also abandoned the additional cut up to the middle of the clavicle.

The principles of this method I have employed in all operations for cancer of the breast that have since come under my care, making such changes in the technic, from time to time, as larger experience seemed to render indicated.

Since the publication of that first article of mine—which, by a strange coincidence, was read simultaneously with the appearance of Halsted's paper on this subject,[2] though conceived entirely independently, I have published no further reports, intending that ample time should elapse to permit of careful observation as to the lasting merits of the operation.[3] On several occasions I have, however, presented patients thus operated on, before the N. Y. Surgical Society, and have, furthermore, given a brief résumé of the operation as carried out by me within the last six or seven years, at the session of the American Medical Association, Atlantic City, 1904, where I had originally planned to read this paper.[4]

I will not here dwell on the details of the changes in the technic that I saw fit to introduce in the course of my experience with the method, but will simply describe the operation as I carry it out to-day.

PREPARATION OF THE PATIENT.

On the day preceding the operation the entire anterior portion of the thorax, the axilla, arm and back of the respective side to the spinal column, as well as the anterior aspect of both thighs are shaven. The latter is done for the sake of having sufficient material for grafting. On the operating table, the patient having been anesthetized, this entire area is once more thoroughly prepared in accordance with aseptic principles. Two long, rectangular horse-hair pillows, covered with rubber-cloth, and wrapped in sterile towels, are placed lengthwise along either side of the spine. In this way the body of the patient is slightly raised from the operating table and hence access to the deeper parts of the axillary cavity is greatly facilitated. (Fig. 1.) The hand and forearm of the respective side, including the elbow joint, are wrapped in sterilized towels and held in place by an aseptic roller bandage. The patient's head is covered with a wet towel, fastened by a bandage around the forehead and occiput or with a rubber cap. A nurse, prepared as to assist at operation, holds the patient's arm (flexed at the elbow to an angle of 90 degrees) slightly raised above a line that would form a right angle with the longitudinal axis of the body. She stands next to the anesthetist, facing the operating field, holding the patient's hand with one hand and supporting the elbow with the other. The patient's arm is put through the cut in the sterile sheet that covers the entire body of the patient.

TECHNIC OF OPERATION.

First Step.—Skin incision, two flaps are formed, a lower and an upper one.

(a) Formation of lower flap: The incision starts at the point of insertion of the pectoralis major muscle on the humerus, passes downward and inward, parallel to and about one and one-half inch above the border of the pectoralis major muscle until the base of the breast is reached, then continues along the lower edge of the latter and ends somewhat beyond the middle line of the body, over the sternum[5] (Fig. 3). With a few cuts the lower flap is loosened and turned downward—as much subcutaneous fat as possible being left attached to the breast—until the border of the latissimus dorsi muscle is exposed in the axillary cavity and, further inward, the chest wall (Fig. 4). The border of the latissimus dorsi is first followed downward to the bundles of the serratus anticus major and then up to the mass of fat that enters the bicipital sulcus of the arms. The fat is bluntly pushed off the anterior border of the muscle with the handle of the knife, and a loose compress of dry aseptic gauze is temporarily packed into the basis of this whole wound.

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* Read before the New York State Medical Association, 1904, and before the Section on Surgery of the New York Academy of Medicine, 1904.

[1] New York Medical Record, Dec. 15, 1894.

[2] Annals of Surgery, 1894, vol. xx, p. 497.

[3] An operation for cancer of the breast, closely resembling mine was described by Z. Rotter of Berlin in the *Berlin klin. Wochen.*, 1896, Nos. 4 and 5, more than a year after the publication of my first article. In 1899 O. Witzel of Bonn emphasized the advantage of the preliminary ligation of the axillary vessels near the trunk, when operating for cancer of the breast. (*Deutsche med. Wochenschr. Vereinsbeilage,* 1899. No. 33.)

[4] THE JOURNAL A. M. A., Aug. 16, 1904.

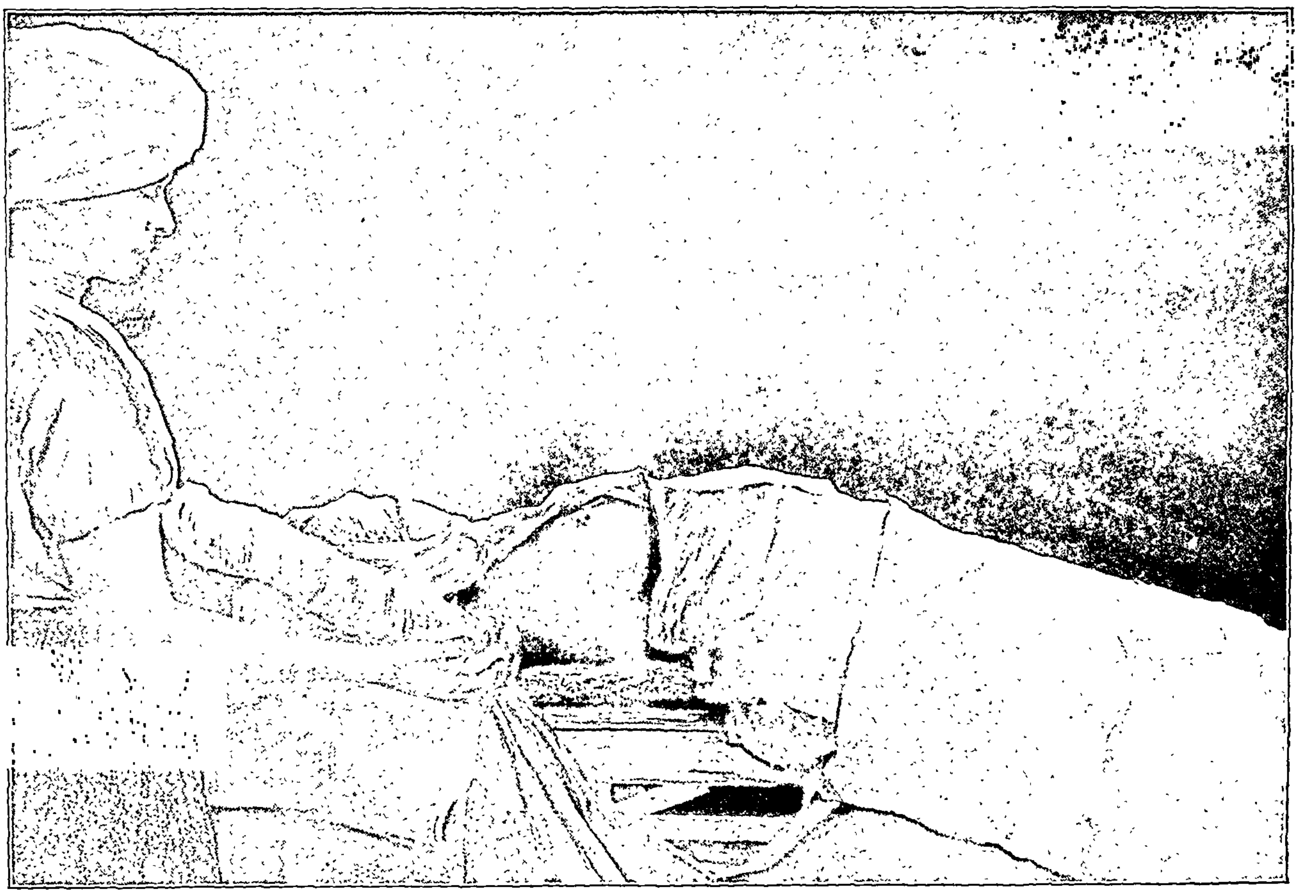

Fig. 1.—Patient on table ready for operation. The sterile sheet is pulled down in order to show pillow raising the patient's back.

(b) Formation of upper flap: The inner and outer parts of the first incision are united by an incision carried along the upper border of the breast, the angles necessarily formed being rounded out as far as this is feasible (Fig. 3). Again, as much fat is left attached to the breast as can be done without endangering the nutrition of the skin; special care is taken not to include the pectoral fascia. By means of sharp retractors, the breast and muscle are then pulled downward by one of the assistants, while the other holds up the upper flap, which is then prepared off by the operator until the cephalic vein is reached and the lower border of the clavicle with the sterno-clavicular articulation exposed. The tissues covering the latter are left undisturbed (Fig. 4).

Second Step.—This consists of exposure of the axillary and subclavian veins after dividing the tendon of the overlying pectorales muscles.

(a) The lower border of the cephalic vein which runs within the groove between the pectoralis major and deltoid muscles, is followed up to the insertion of the tendon of the pectoralis major onto the humerus; the tendon is quickly exposed in its upper as well as in its lower aspect, in the latter place by clearing the lower border of the muscle, near the tendon, so that the axillary fat is fully detached. This having been done, the arm is lowered somewhat by the nurse, in order to relax the pectoralis major. Now, the surgeon, encircling the tendon from below with his forefinger (Fig. 5), cuts it off close to the humerus. By means of sharp retractors the muscle is pulled inward and downward, being loosened at the same time with the knife from the cephalic vein, until the clavicle is reached, when it is cut off close to and alongside the lower border of this bone and of the sternoclavicular articulation. (The vessels crossing the operating field are doubly clamped and divided, and the nerves, entering the belly of the pectoral muscle cut.) The thorax and the intercostal muscles together with the upper part of the pectoralis minor, now come into view.

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[5] The illustrations accompanying this article and showing the various steps of the operation represent drawings from photographs of dissections on the cadaver. As I needed colored illustrations also in connection with the reading of my paper, I did the work twice, first, at the dissecting room of the College of Physicians and Surgeons, through the courtesy of Dr. George Huntington, and then at Cornell University, through the kindness of Dr. John Rogers, Jr. I would here express my sincere thanks to them, and also to Dr. Martin Rehling, former house surgeon of the German Hospital of New York, who, in both instances, assisted me in preparing the various steps of the operation. I am, further, greatly indebted to Dr. Henry Macdonald of Morris Park, L. I., the artist who made the drawings in this perfect manner, from the photographs taken by him.

This step of the operation is greatly facilitated if the surgeon assists in the downward traction exerted by the sharp retractor held by one of the assistants pressing his left index and middle fingers on the bundles of the belly of the muscle. The tendon of the pectoralis minor is bluntly freed from the surrounding tissues and divided from the coracoid process, the left forefinger again encircling it (Fig. 6). Care has to be taken not to injure the subclavian vein which runs just beneath the tendon.

(b) Transverse division of the fascia overlying the axillary vessels: The axillary and subclavian veins are brought into view and their lower border is bluntly exposed.

Third Step.—This consists of extirpation of the axillary and subclavian glands with surrounding fat.

(a) The gauze tampon that was placed inside of and underneath the lower flap, is removed.

(b) The axillary fat covering the upper portion of the latissimus dorsi muscle is split up to the axillary vein, thus dividing it from the mass of fat that enters the sulcus bicipitalis brachii; it is pulled downward by sharp retractors.

There is no danger here of injuring the axillary vein, since this has already been fully freed, and the left forefinger is pushed underneath the fat up to the vein, its nail resting on the same (Fig. 7).

(c) Beginning at this place, the lower border of the axillary and subclavian veins is carefully followed up to the spot where the latter disappears underneath the clavicle. Every vessel, that is come across, is doubly caught and divided between the clamps. In this way little or no blood is lost (Fig. 8). The two superior subscapular nerves are always carefully preserved, but not the third, the one for the latissimus dorsi muscle. It is usually deliberately divided on its way across the axillary cavity close to the main vessels, and again with the bundle of artery and vein at the point of entrance right at the exposed border of the muscle. I do so, because I fear that in attempting to preserve the nerve in its entire course, infected tissues might be left behind. I have never seen any harm resulting from thus sacrificing the nerve with reference to the future use of the arm.

Fourth Step.—This is the formation of a pedicle over the sternum, and the removal of the mass.

(a) The first assistant takes hold with both hands of the tissues so far loosened, without, however, exerting the slightest traction, merely supporting them. If he does pull, he is liable to tear off patches of the periosteum or perichondrium of the rib or their cartilages at places where the latter are firmly attached to the origin of the muscular fibers, and if such bared spots can not be immediately covered by living tissues or grafts, a slowly developing necrosis may be the consequence.

Returning to the exposed subclavicular space, the surgeon, in turning the blade of the knife horizontally, that is to say, perpendicularly toward the thorax, now cuts rapidly down to the chest wall, taking care not to injure the bundles of the serratus anticus major muscle. If he should not thus turn the blade of his knife, but cut perpendicularly downward toward the subscapular muscle, he would enter the fat covering and enveloping the blood vessels and nerves of this region, thus running the risk of unnecessarily causing considerable hemorrhage and of injuring the subscapular nerves. In the general run of cases, this region need not be explored. Only in very far-advanced cases did I find a few infected glands in this area.

(b) With the operator's left hand on the fibers of the pectoralis major muscle to be cut close to the chest wall, pressing from below the mass gently toward the sternum, thus supporting the weight carried by the first assistant, short quick incisions, parallel to and almost on a level with the ribs, cut the fibers of the pectoralis major near their origin. The perforantes arteries and veins, being under tension and, hence, generally easily discernible, are also doubly clamped and divided. If not well discernible they may be cut first and then at once secured with clamps. If proper care is exercised, very little blood is lost. Now the only tissue by which the extirpated growth still remains attached is the pedicle, formed by the muscular fibers at the sternum. The whole mass is then well raised by the first assistant, and the operator, grasping this pedicle with the left hand, divides it close to the sternum, with a few rapid cuts with a pair of large curved scissors or with the knife (Fig. 9). The severed arteries are caught with clamps after each clip with the scissors. The operation, as such, is completed.

The average time consumed in this operation, which I have called "the radical operation for carcinoma of the breast," is from 25 to 30 minutes. I have done it in 12 and 16 minutes and, on the other hand, have used from 50 to 60 minutes and even more in cases in which the glands closely surrounded the axillary and subclavian vein, and supraclavicular infiltration necessitated my cleaning out this space. For the purpose of facilitating the subsequent grafting of the resulting defect, I have—as an experiment—for the last nine months, in patients *who came to operation early,* tried to preserve a small stump of the belly of the pectoralis minor muscle (Fig. 10), which, it is the concensus of opinion among pathologists, is never infected by carcinoma, except in far advanced cases in which the diseased tissue has grown through the muscles toward the ribs and a cure by operative means is out of the question.

Fifth Step.—This consists of ligation, drainage, and suture of wound.

(a) Ligation: I have always made it a point not to lose time by applying ligatures during the operation. The principal blood vessels being cut close to the main vessels, except in the beginning and toward the end of the operation, no appreciable amount of blood is lost. As stated before, all visible arteries and veins, even the smallest ones, are brought to view during the principal part of the operation by blunt preparation with the handle of the knife, forceps, curved scissors or grooved director, then caught by two clamps and divided. Other vessels that have to be cut during the early part of the operation, before having been clamped, are immediately secured. Six dozen artery clamps should be on hand. I have always been able to get along with this number, and have sometimes used less. If this number can not be procured, the surgeon may have to apply ligatures in the course of the cutting part of the operation. If, toward the end of the operation, the supply of artery forceps becomes exhausted, those applied to the smaller vessels in the beginning of the work may now be safely removed without giving rise to further hemorrhage, since the trunk has meanwhile been clamped. After

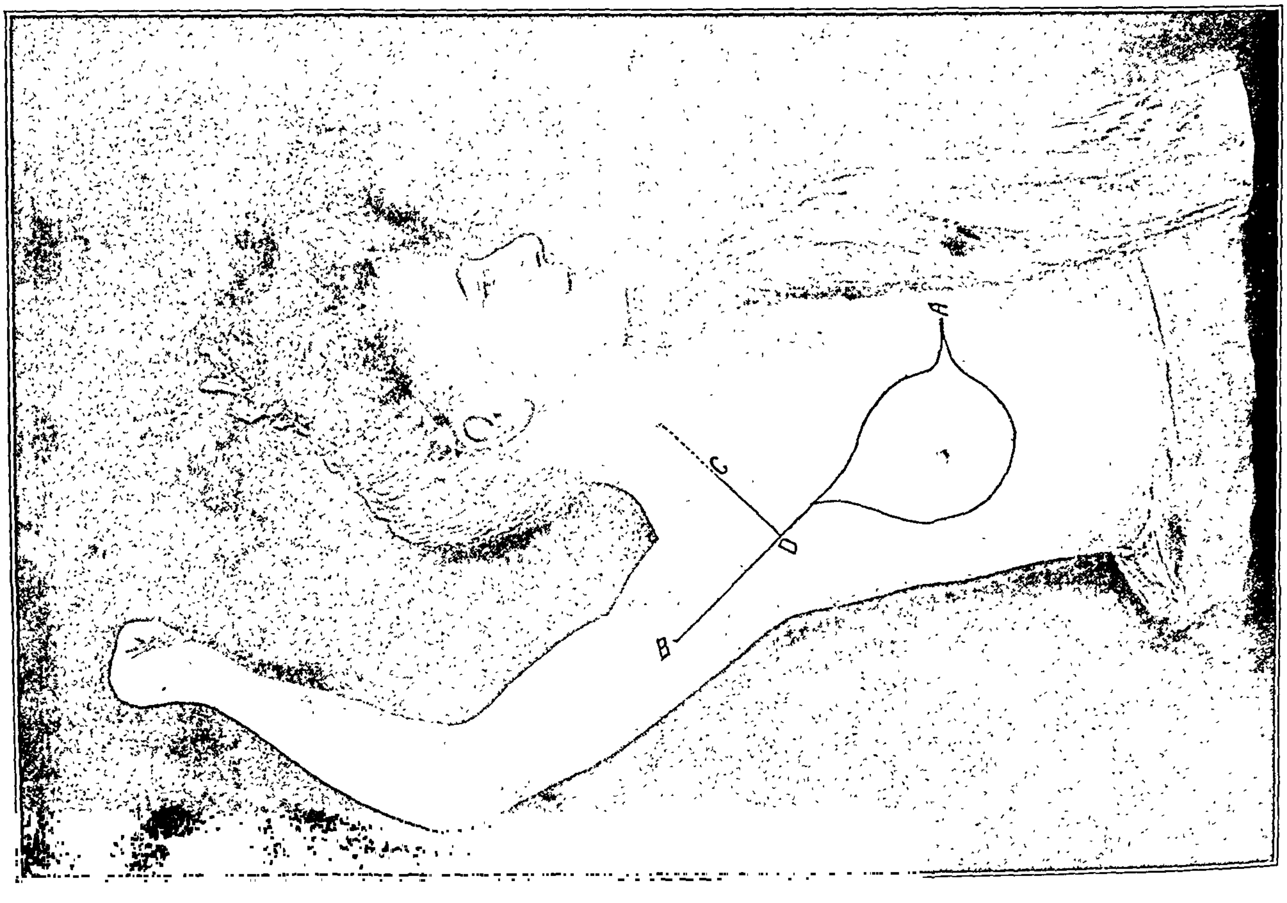

Fig. 2.—Original incision as devised in 1894. The dotted line shows continuation into the supraclavicular space for the removal of infiltrated glands.

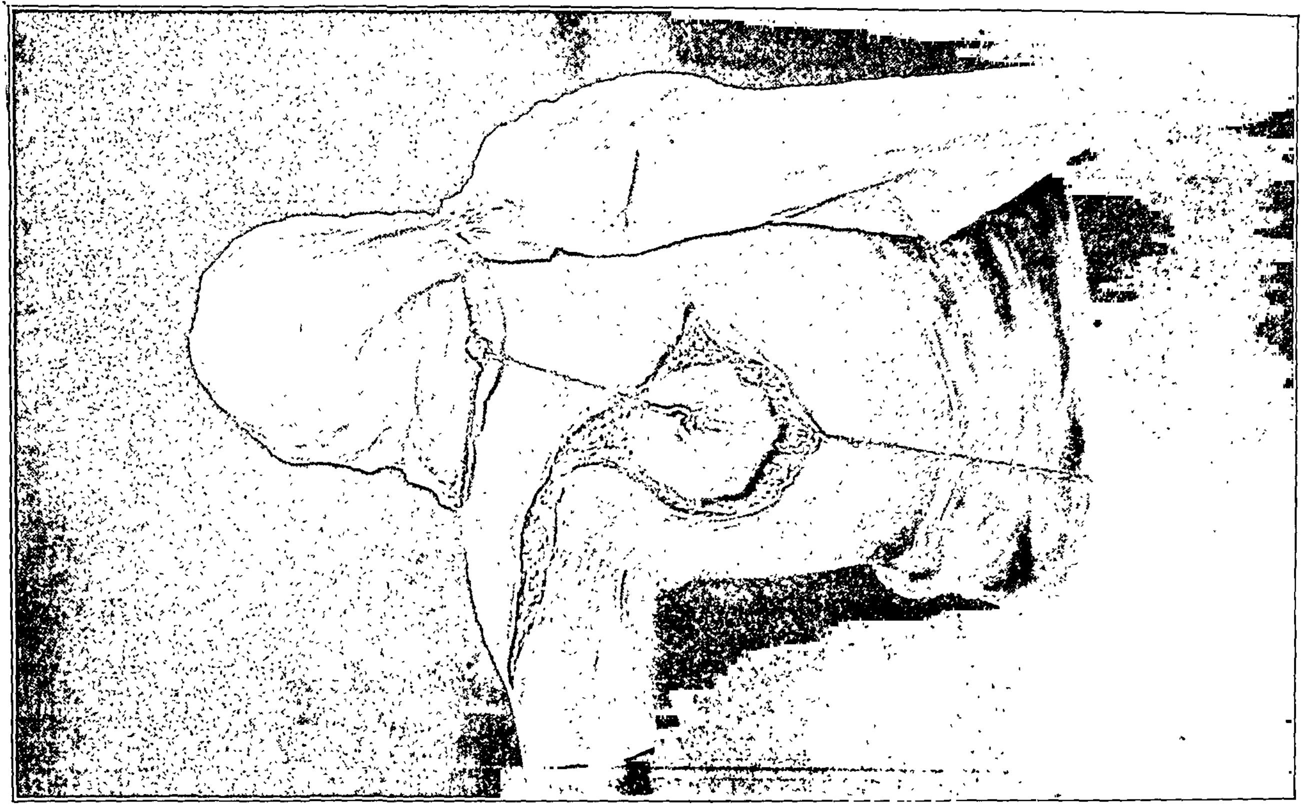

Fig. 3.—Skin incision as practiced since 1898.

the pedicle has been divided and its vessels are caught, usually from 30 to 50 clamps will be found hanging on the surface of the wound. After all vessels are secured, whatever further small bleeding points there may be, are caught and ligated until the wound, after frequent mopping, appears to be perfectly dry. Irrigation is never used, the operation is carried out in the dry, aseptic way, from beginning to end.

(b) Drainage: I invariably drain the axillary cavity and have always found it to facilitate convalescence. The surgeon places the second and third finger of his left hand within the wound at the border of the latissimus dorsi muscle and at the lowest point of the flap respectively, and makes an incision parallel with the border of the flap, from 2 to 3 inches away from it. If the inward pocket seems too deep, the belly of the muscle is sometimes bluntly perforated with the dressing forceps, always, of course, parallel with the direction of its fibers. The two halves of a divided large drainage tube are pulled through the incision, the upper end being made to rest in the groove of the axillary cavity near the chest wall. Each outward end is secured with a small safety pin. When there is fear of the tube being moved, during the subsequent work, the upper end is fastened to the nearest tissues with a stitch of finest catgut which will become absorbed within a few days. A smaller gutter drain is inserted at the upper angle of the wound, running inward to the divided tendon of the pectoralis major muscle. There is usually some parenchymatous oozing in this region, although the bleeding surface of the stump has been doubled up by running catgut suture.

(c) Suture of wound: A small sharp hook is placed in the upper angle of the wound by the assistant standing next to the operator; upper and lower flap are stretched by the first assistant pulling them well towards the sternum; continuous suture, with catgut, as far as possible, pulling the lower flap upward and inward as much as feasible, in order to secure a proper reformation of the axilla (Fig. 11). In case of tension, a few interrupted sutures are added until the preserved stump of the belly of the pectoralis minor is reached. The same manoeuver is carried out at the opposite angle of the wound, except that here interrupted sutures will sometimes have to be employed instead of the continuous suture. A large defect is now visible (Fig. 12).

As mentioned before, I have found, in the course of my work, that by preserving a small stump of the belly of the pectoralis minor muscle, usually two-thirds of the lower defect border can be stitched to this stump by a continuous catgut suture. This, of course, materially reduces the size of the defect, besides improving its surface for the purpose of grafting (Fig. 13). This suture begins at the place where the running suture of the outer part of the wound reaches the chest wall and preserved stump of the belly of the pectoralis minor muscle, respectively. I have tried all kinds of sutures, interrupted, mattress, etc., and have come to the conclusion that an ordinary continuous suture best answers the purpose. When trying to turn the cut surface of the skin of the upper wound border down to the chest wall, sufficient muscular tissue will generally be found to be lacking, in which case a few interrupted stitches grasping some of the tissue of the intercostal muscles will have to be used to bring the cut surface of the skin of the flap border in as close proximity to the chest wall as possible. Of course, the knots must be placed on the skin so as not to interfere with the subsequent grafting (Fig. 13). Careful future observation of patients, thus treated, will show whether this preservation of a small stump of the pectoralis minor muscle in those who come to operation early, is an advisable procedure. I would mention that one can, of course, also get along without preparing the area to be grafted on, in the manner just described. I myself have, for eight years, grafted directly upon the chest, putting special grafts also on the cut surface of the subcutaneous fat all around the wound; but the surface of the depth of the wound is naturally not so even.

Sixth Step.—This consists of grafting the defect. Experience has taught me, that it is best always to graft immediately after operation.[6] Both thighs having been prepared, I never run short of material, no matter how large the area to be covered. I cut the grafts as thin and long and wide as possible, placing them in a line running parallel with the longitudinal axis of the body; the ends are made to rest on the skin, their borders overlapping, as the shingles of a roof (Fig. 14). Great care is needed to press out all bubbles of air and to thoroughly flatten out the borders, which have a tendency to curl. Saline water is, of course, used during the entire procedure, whenever necessary.

Seventh Step.—This is the dressing of the wound. While the assistant covers the superficial thigh wounds with long strips of sterilized rubber tissue, one overlapping the other, to be covered with aseptic gauze and held in place by two long strips of zinc adhesive plaster, surrounding thigh and dressing in serpentine shape and running in opposite directions, the operator covers the grafted breast area, including the adjacent borders of the skin flap, with similar long strips of sterilized rubber tissue,[7] placed in a horizontal direction. A few pieces of shaken gauze are then put on top and held by the assistant; small pieces of divided compress are pushed under the safety pins securing the drainage tubes, just as we are wont to do in other operations, and the entire operating field is covered by plenty of loose gauze, with compresses on top. Meanwhile the patient has been pushed upward, and the headpiece of the operating table having been lowered, the upper half of the body, supported by the anesthetist and the assistants, is well exposed for applying the dressings. The arm is placed across the chest, the axillary cavity having been previously filled with large pads of sterilized cotton batting. The same style of pads are placed on top of the entire arm, and a Desault bandage is applied with ordinary white gauze bandages. Then the patient is put to bed and the elbow supported by a small pillow.

TIME CONSUMED BY THE OPERATION.

The average time required from the beginning of the operation to the completion of the dressing is about two hours. I have, in a number of instances, done the work

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[6] During the first years of this work I grafted skin from eight to ten days after operation. The defect was not curetted, but the grafts were placed on the granulating surface, without the latter having been touched. The grafts took in the majority of the cases, but patients consider skin-grafting a serious operation, and they dread it, so much the more if the first attempt is unsuccessful and the procedure must be repeated. Surely, time, pain and annoyance can be saved our patients by always grafting at once.

[7] After much experimenting, regarding the best dressing for the grafted area, including the celluloid nets of Kuhn (*Centrabl. f. Chir.*, p. 613), I have come back to the imperforated rubber tissue as the best. Open wound treatment, viz., exposing the grafted area to the air, would be still better, but asepsis requires a sterile dressing.

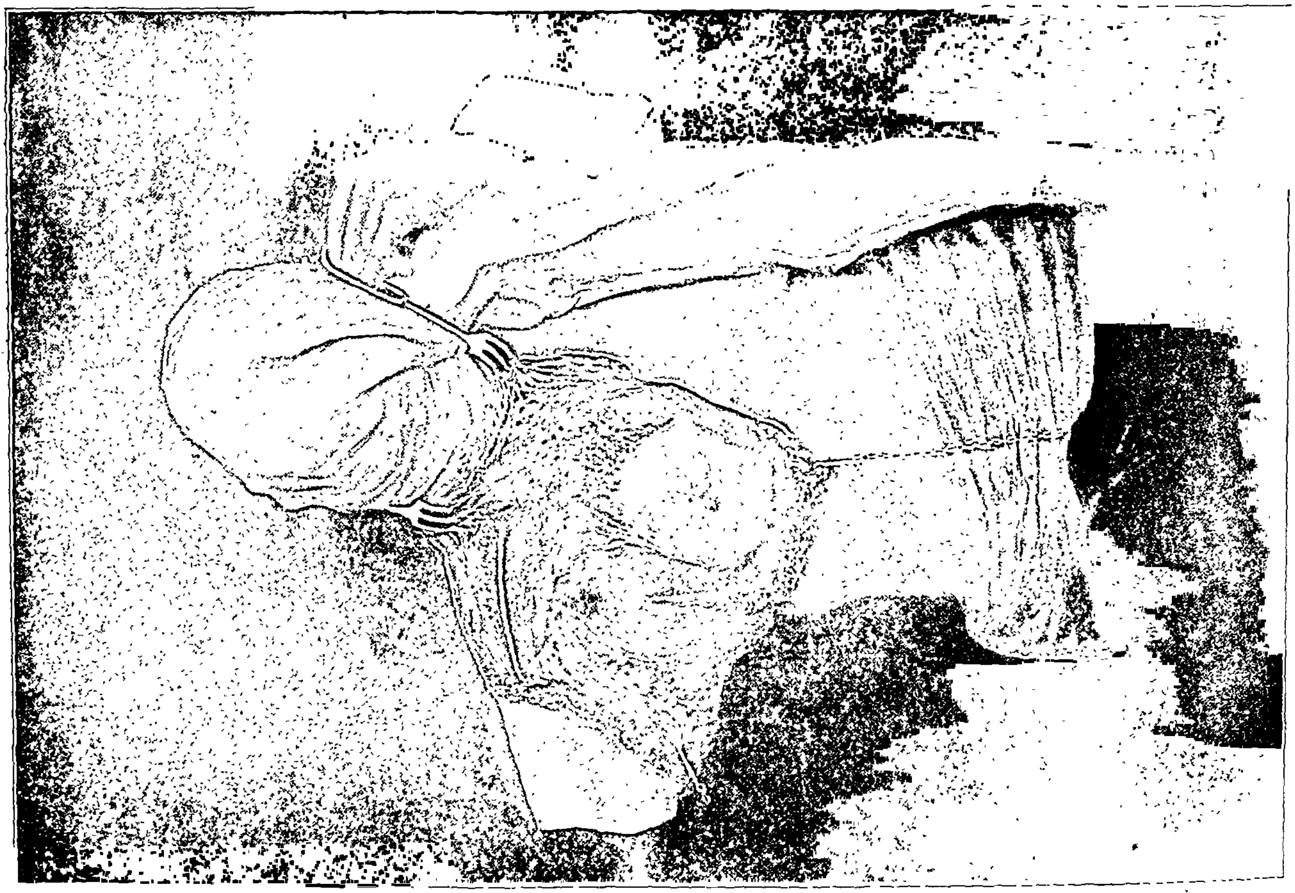

Fig. 4.—The two skin flaps turned back. Border of latissimus dorsi, cephalic vein and clavicle with the sternoclavicular articulation, the landmarks, exposed.

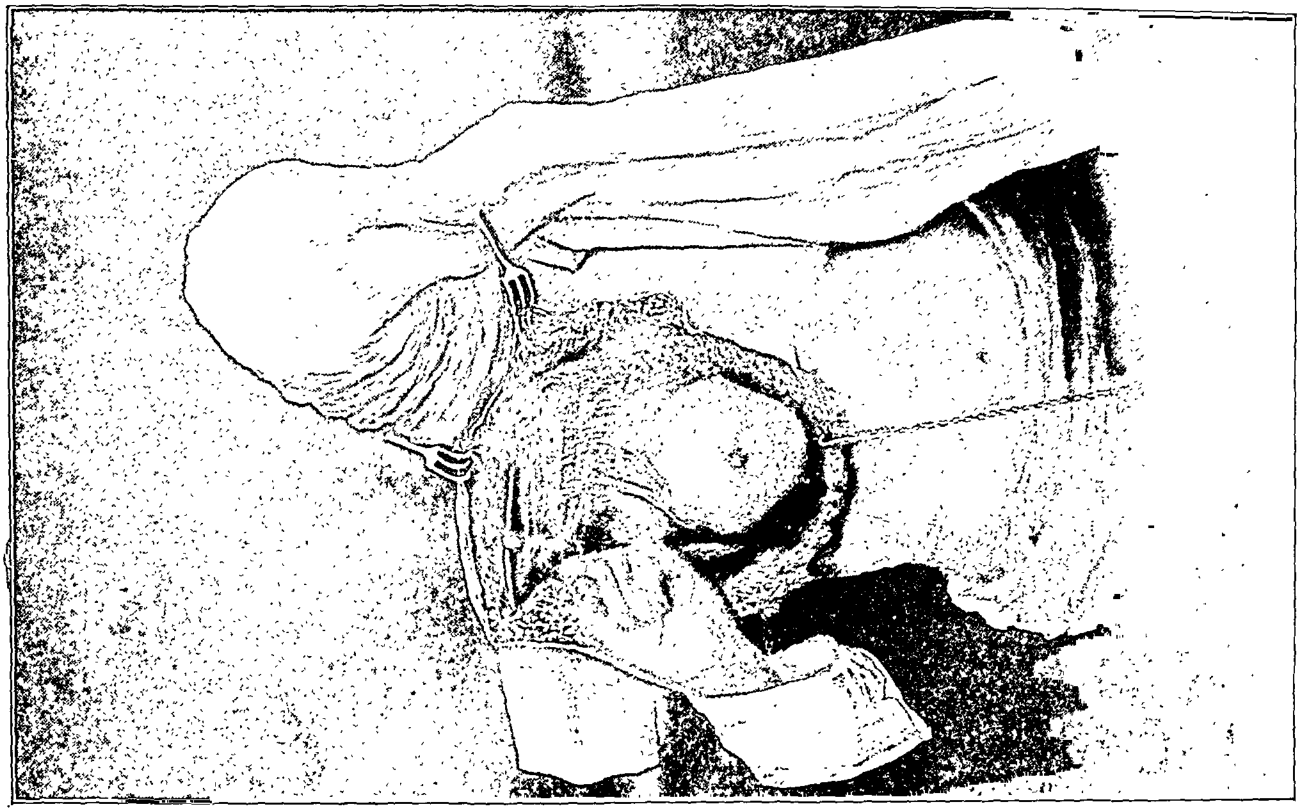

Fig. 5.—Insertion of pectoralis major muscle exposed. Operator's left index finger encircling its tendon.

in from one hour and ten minutes to one hour and thirty minutes, and once, in a very difficult case, necessitating immediate excision of infiltrated supraclavicular glands, required three hours in which to do it. The cutting part of the operation, such as stated above, can usually be accomplished within from twenty-five to thirty minutes. I have done it in twelve, sixteen, eighteen and twenty minutes. I am aware, of course, that in this kind of an operation speed is not a paramount consideration; still, it is an advantage, other points being equal.

AFTER-TREATMENT.

For the first twenty-four hours, the patient is kept flat on her back, with the lower end of the bed slightly raised, if needs be (in anemic patients). From the next day on, the patient may have one or more pillows, according to individual desire. The elbow remains supported by a small pillow. After considerable experimenting as to the best time for changing the first dressing, I have decided on the sixth day, when it will almost invariably be found that the grafts have taken well. One of the long split drainage tubes is removed at the same time; the other, as well as the smaller tube at the upper angle, is materially shortened, and a wet dressing with Thiersch's solution is applied.

The second dressing is changed two days later, when the tubes are removed entirely and the small wound in the arm that gave exit to one of the tubes is covered with borated vaselin on sterile gauze, and which is held in place by two straps of zinc adhesive plaster. The grafted area and posterior drainage wound are covered with aseptic gauze soaked in 1:5000 nitrate of silver solution (to be gradually increased to 1:3000) which is useful in preventing the small, cauliflower-like granulations that so frequently spring up between the edges of the grafts, from becoming too abundant and overhanging.[8] In spite of this precautionary measure, they often appear and need clipping and cauterizing. The arm is left out of the sling after the second dressing; soon the patients are made frequently to move and to raise the arm above the head. After they are up and about, they are taught to stretch the arm with the hand resting against the wall or on anything of sufficient height to enable them, by bending their knees, to give it perfect elevation. Another exercise is to lift the arm, when flexed at the elbow, sufficiently high to form a right angle with the body and then push it horizontally backward. They are always able to dress themselves without assistance when sent home. These exercises are of greatest importance in shortening the time needed to regain normal mobility of the arm.[9]

In cases in which the grafts did not take, or in which they took partially only and in which there was a tendency to border-necrosis of the flaps, I have in recent years resorted to open-wound treatment. As long as the patients are in bed it is, of course, easy to arrange the dressing around the defect so that the sterile gauze stretched over the partially granulating grafted area does not touch the wound. When patients are up and about, however, it is very difficult. In these cases I have found a little contrivance, devised by Dr. E. Hochheimer of this city, very useful. It consists of the one-half of one of the so-called artificial busts as they are sold in our large department stores. This cup-shaped arrangement is tied over the grafted area by means of tape passed through its pierced corners; it will serve as a protection, under the patient's dress, so that open-wound treatment can be safely continued. Under this arrangement, the most sensitive grafts are often seen to continue to spread over the still open surface.

The patients are usually out of bed on the seventh or eighth day and leave the hospital or my immediate care after two weeks. According to the time required for wound healing in the individual case, cicatrization becomes perfected within from three to four weeks after operation. It is a good plan to have the patients spread some lubricant over the grafts and scar every night before retiring later in order to avoid scaling.

RESULTS OF OPERATION.

During the ten years covered by this report, I have operated for primary cancer on seventy patients, the above described method being employed in every instance. It is needless to state that the clinical diagnosis of carcinoma was invariably confirmed by microscopic examination of the specimen after the operation. As to the proportion of scirrhus and adenocarcinoma I am unable to give the exact data, although I know that there were very few of the latter. Of these seventy patients, one died in direct connection with the operation, however, not as a result of it. This was a diabetic, having 8 per cent. of sugar, who passed into coma on the third day after operation, without showing any symptoms of wound complication. I personally had strongly advised against operation, but the family, foreseeing the inevitable suffering the patient would have to go through, if the disease were left to itself, insisted on operative intervention. Another patient, 49 years of age, died shortly after her second operation. Radical operation for carcinoma of the right breast had been performed by me on July 23, 1901. She made a rapid recovery, but nine months later I was called in to operate for a metastatic tumor that had developed in the opposite breast. I again operated radically, and the patient stood the operation as well as she had stood the first. Two days later, however, she commenced vomiting blood in large quantities. Palpation revealed the presence of a well-defined nodular tumor in the gastric wall, evidently a carcinoma. The patient not having complained of stomach symptoms before the operation, I had omitted, contrary to my usual custom, to examine her abdomen. Hematemesis continued for 36 hours, and, in spite of all our efforts to relieve the condition, she died at the end of this time, primary union of the wound meanwhile having taken place. Autopsy was refused, but there can be no doubt that death was due to continuous hemorrhage from a neoplasm within the stomach.

Surely, neither of these deaths can be attributed to the operation as such; besides, the operation in the second case was done for a metastatic tumor, not for primary carcinoma.

Another patient on whom I did the radical operation on both breasts, the second operation twenty-one months after the first, is alive and well to-day. Hence, it appears that in a series of seventy-two operations on seventy patients with carcinoma my mortality has been *nil*; or, counting the diabetic patient who died as a result of coma, 1.4 per cent.[10]

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[8] This kind of after-treatment of the grafted area was proposed a few years ago by Dr. O. Hensel of this city, former house surgeon of the German Hospital.

[9] It is advisable not to commence these exercises before the tenth to twelfth day. If begun too soon the border of the lower flaps may be torn off the outer border of the grafted area, an accident which would retard convalescence.

[10] Besides these 72 operations, done for carcinoma, I have had two patients, one with an encapsulated melano-sarcoma, the other with a large cysto-sarcoma, on whom I also used this radical procedure. Both recovered.

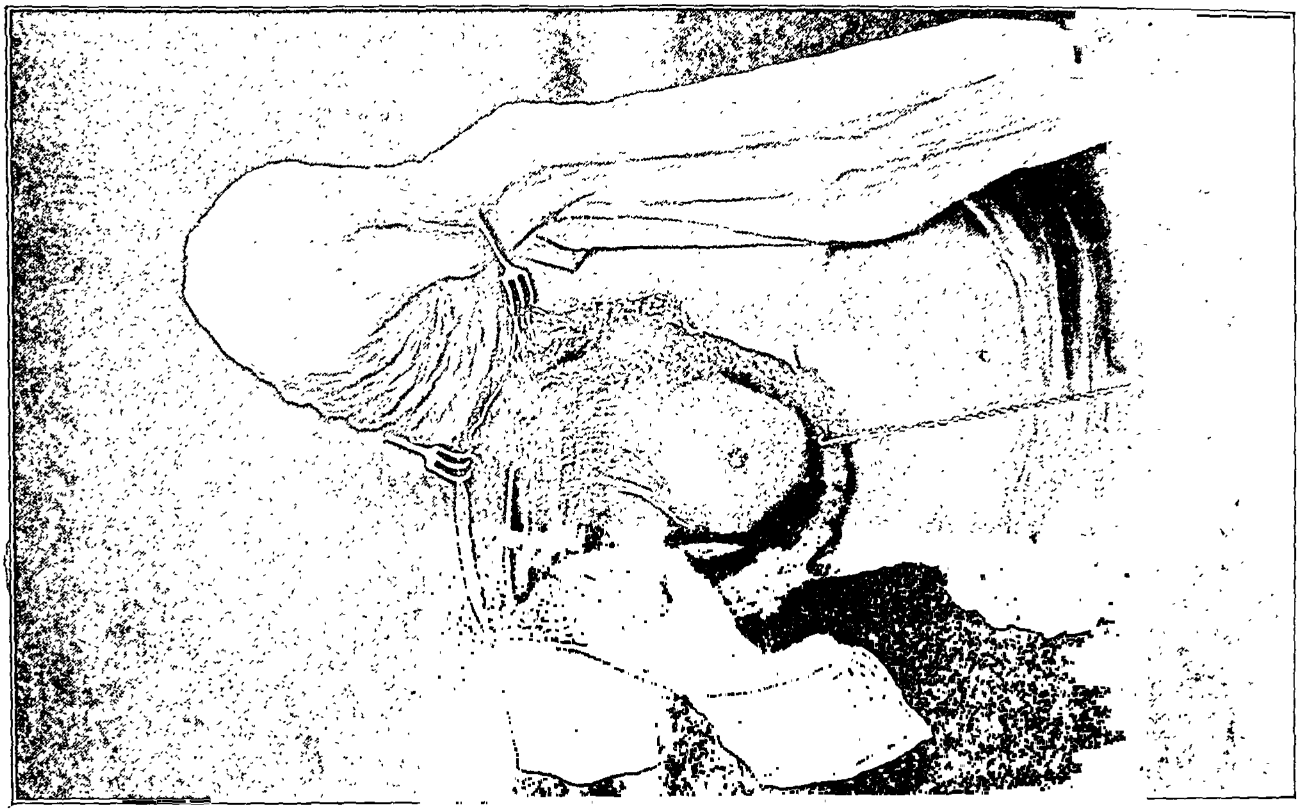
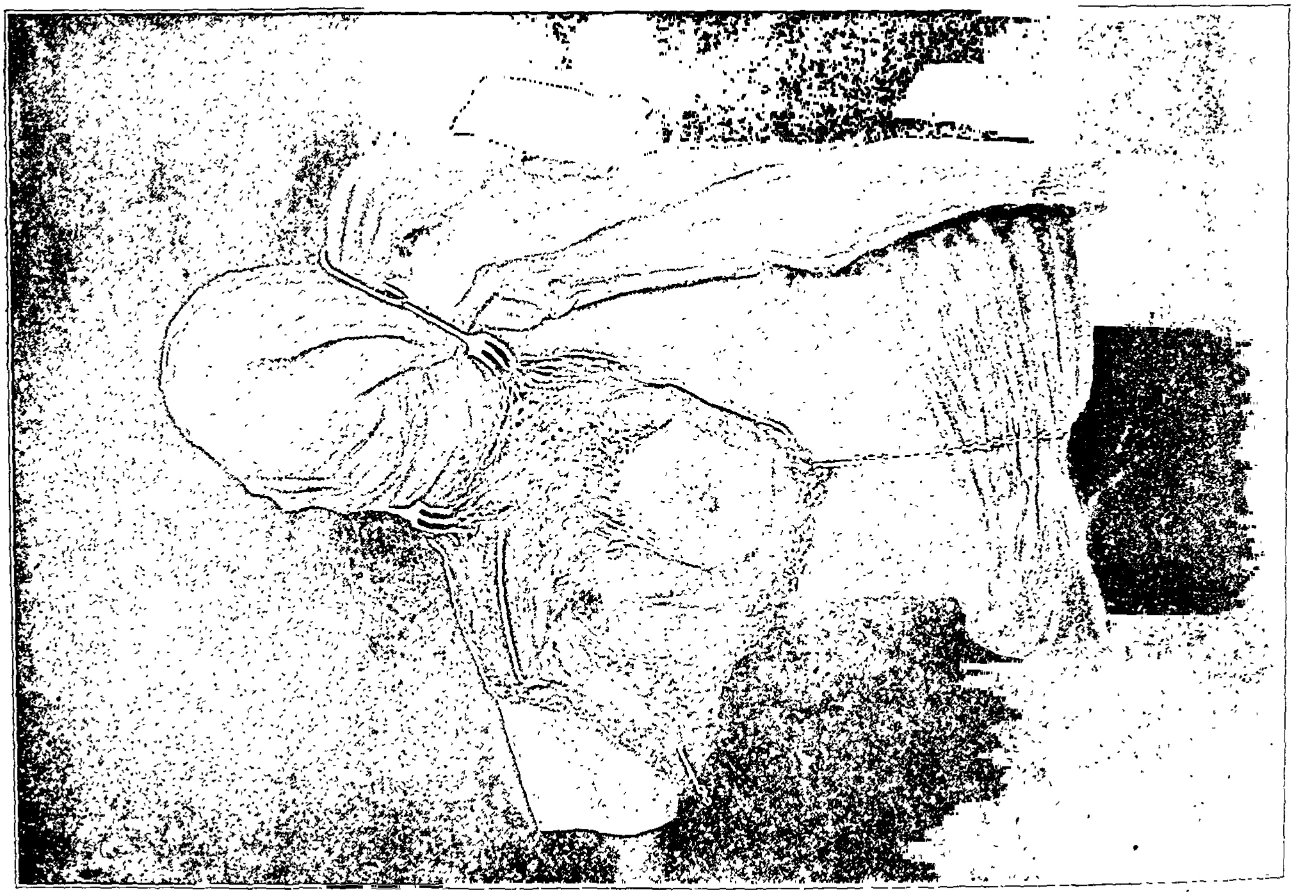


Fig. 5.—Insertion of pectoralis major muscle exposed. Operator's left index finger encircling its tendon.



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CHARACTERISTICS OF THE OPERATION.

As will be seen from the description of the technic, in my operation, the surgeon works his way from the axilla downward and inward, i. e., from the insertion of the muscles to their origin, instead of in the opposite direction, as followed by Halsted. This enables the operator, after the formation of the two flaps, primarily to expose and to secure the feeding blood vessels close to their trunk, instead of first encountering their smaller branches, and then re-encountering their larger branches, as is inevitable when working from below and inward toward the axillary cavity.

From an anatomic point of view, therefore, I think the method must be conceded to be superior to those in which the operator works his way in the opposite direction. Besides, it is thorough, simple, safe and bloodless, a typical procedure. The technic does not permit of further improvement, except the future should show it to be a good plan to follow up the chain of glands into the supraclavicular space in every instance, with or without temporary division of the clavicle at the place where the subclavian vein dips underneath it.

I am sure the method will appeal to any one who has seen or done it.[11]

There is no shock. During my ten years' experience, I have found it necessary but once to give an intravenous saline infusion after the operation. This was in a much reduced, elderly patient, with far-advanced glandular involvement around the veins, in whom a supraclavicular operation had to be added at once. In no other case was intravenous infusion or hypodermoclysis required; a rectal saline with whisky and strychnin, usually given immediately after operation, always sufficed for stimulation in weak patients.

FUNCTIONAL RESULTS.

Inasmuch as in this operation the tendon of the pectoralis major muscle is primarily divided close to the humerus, the entire belly of the muscle, i. e., the pectoral plus the clavicular portion has to be excised as a matter of course. The latter having a blood supply of its own and special lymphatics, its preservation as practiced in Halsted's operation would probably have no bearing on local recurrence of the disease. The removal of the clavicular portion, however, does not mean any serious addition, and the clean and thorough removal of the glands and fat alongside of the axillary and subclavian veins is thereby materially simplified.

Time has shown that the *total* removal of the pectoralis major muscle does not mean mutilation, as it was thought by some colleagues ten years ago, when I first brought out this method. On the contrary, my patients have always been much pleased with the free and perfect use of the arm they have obtained. Ability to assume the posture of the Statue of Liberty is the rule, not the exception (Fig. 15). Besides, the arm remains strong and useful. Quite a number of poorer patients scrub and wash without any discomfort.

In a few instances, in which an exceptionally large portion of skin had to be removed with the tumor, patients complained of a feeling of ti[illegible]s during the first few months. This feeling, howe[illegible]dually disappears as the grafted area become[illegible] generally after from three to si[illegible]onths.

The splendid func[illegible] result, i. e., [illegible] mobility of the arm, which invariably follows this method, I think, speaks well for the operation. The gymnastic exercises employed as an aid in this direction have been previously described.

As a rule, no edema of the arm is observed; later, in some cases, a slight puffiness on the inner side of the elbow becomes evident, but a swelling of the entire extremity is rarely noted. Many years of careful observation have taught me that if such general edema of the arm sets in, it is not necessarily a sign that deep infected supraclavicular glands are pressing on the subclavian vein. I rather think that the unavoidable tying or cutting of large lymphatic vessels, simultaneously with severing the blood vessels near their trunks, and the broad and deep cicatrix after far-reaching preparation around the vein, often produce sufficient constriction to retard the lymphatic as well as venous current. In some cases, local venous thrombosis and later permanent occlusion of collateral veins are, perhaps, to be blamed. Massage of the arm usually has little effect here.

Flannel or elastic bandages compressing the arm from the wrist up to the shoulder have to be used in pronounced cases which, as stated, fortunately are rare.

SPECIAL OBSERVATIONS.

Under this heading, I would mention a few of the numerous interesting observations I have made in the course of years.

I fully agree with those who claim that cancerous infiltration of the supraclavicular glands means sure death. I have not a single case to record in which the patient was saved by operation after these glands had become involved. Very extensive affection of the glands above the collar bone I, therefore, consider an indication not to urge the operation. If, however, the glands are but moderately infiltrated at the time of the first operation, or if they become evident some time thereafter, they should be removed forthwith, for I think it the surgeon's duty in such cases to remove whatever can be reached with the knife so long as metastases do not forbid an operation.

In regard to the desirability of cleaning out the supraclavicular space at the time of primary operation *in every case,* without clinical evidence of the presence of cancerous glands in this region, my experience does not support the advisability of such procedure. In none of my ten patients who have remained well from four to ten years after operation were the supraclavicular glands removed. For the present, therefore, I consider it best not to invade this region, unless glands are actually palpable at the time of operation, in which case, of course, they have to be removed, and prolonged x-ray treatment should be added as a possible preventive against recurrence.

Reviewing my 70 cases in this connection, it appears that in 3 patients supraclavicular involvement was evident at the time of primary operation. The glands were removed with the breast. One of these, a diabetic patient (Case 7), 65 years of age, died, 2 days later, of coma. The other 2 also died within 9 months after operation.

Six of the 70 patients developed infiltration of the supraclavicular glands from 6 months to 3 years after the primary operation (Cases 3, 16, 29, 34, 53, 61);[12] none of the patients had presented symptoms of their

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[11] I was much inte[illegible] t [illegible] of Boston has also adopted [illegible] year and finds it one [illegible] thorough. Annals of S[illegible]

[12] These and following numbers refer to the table attached to this article.

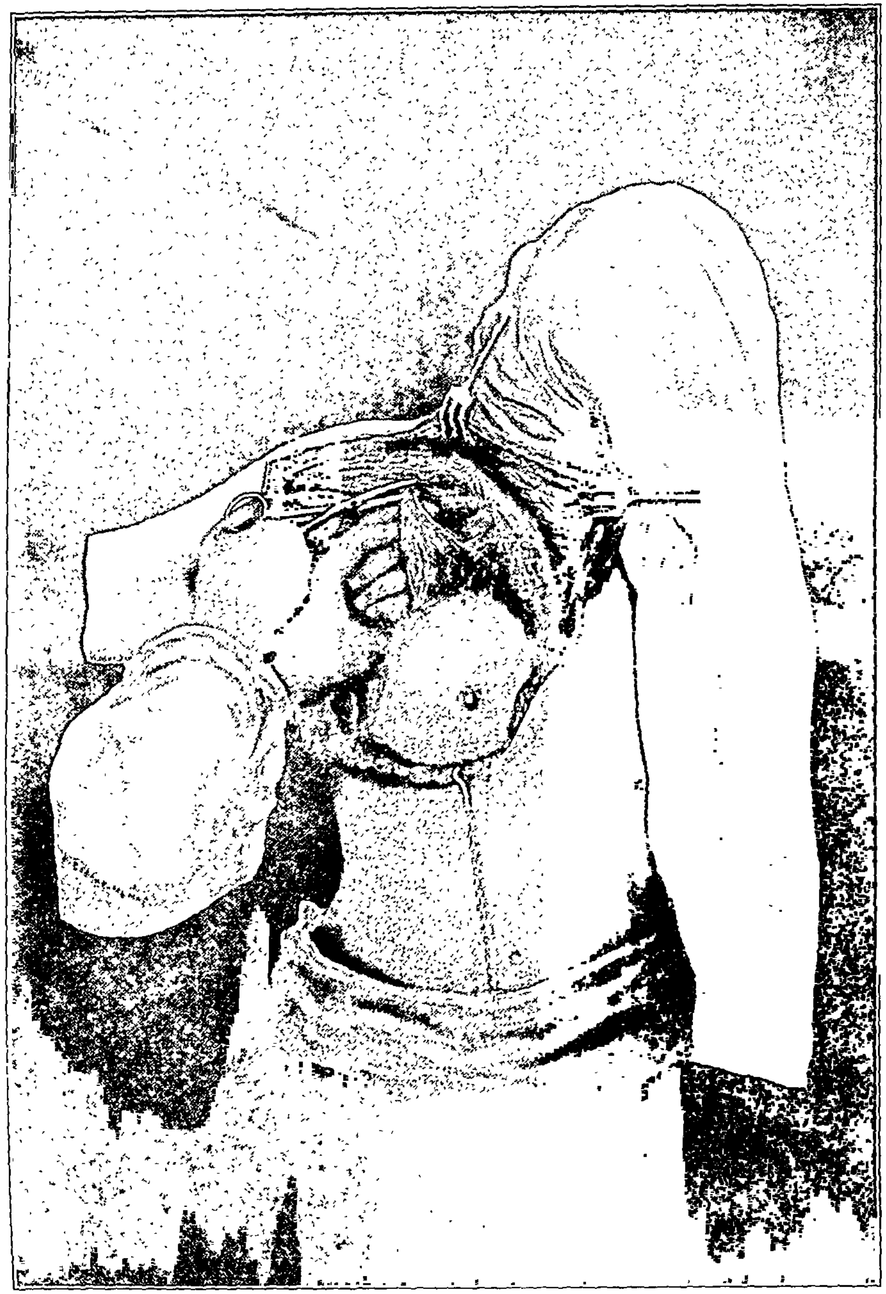

Fig. 6.—Finger under tendon of pectoralis minor muscle. Above, cut surface of clavicular portion of pectoralis major parallel to clavicle is visible. (In the living, the belly of the pectoralis major is not so thoroughly detached from that of the pectoralis minor. It is done here to show the latter's tendon.)

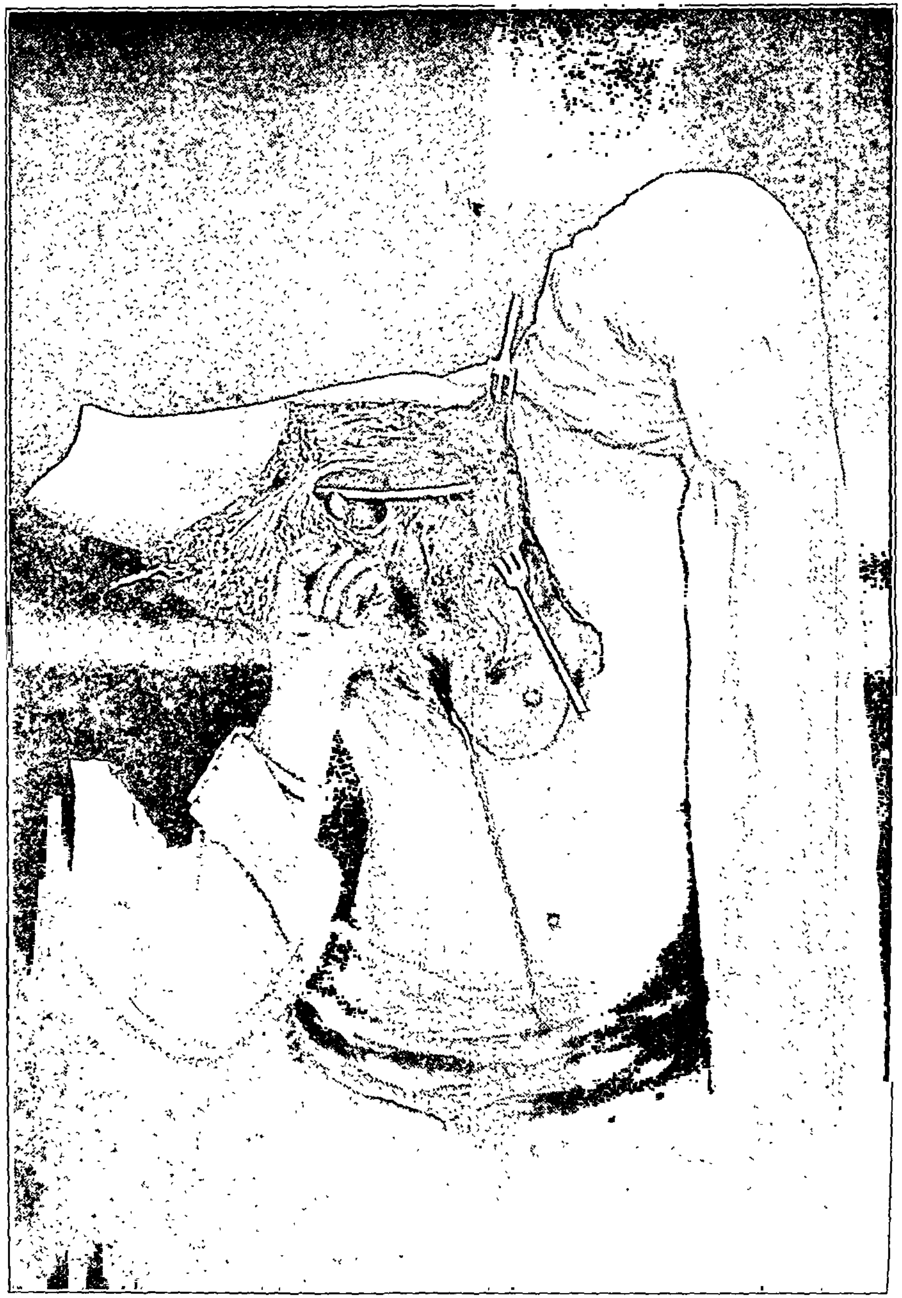

Fig. 7.—Subclavian and axillary veins fully exposed. So far, *glands and fat tissue* not removed; *smaller* vessels still in connection with *main* trunks. Finger under fat toward sulcus bicipitalis, its nail resting *on axillary vein.*

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SPECIAL OBSERVATIONS.

Under this heading, I would mention a few of the numerous interesting observations I have made in the course of years.

I fully agree with those who claim that cancerous infiltration of the supraclavicular glands means sure death. I have not a single case to record in which the patient was saved by operation after these glands had become involved. Very extensive affection of the glands above the collar bone I, therefore, consider an indication not to urge the operation. If, however, the glands are but moderately infiltrated at the time of the first operation, or if they become evident some time thereafter, they should be removed forthwith, for I think it the surgeon's duty in such cases to remove whatever can be reached with the knife so long as metastases do not forbid an operation.

In regard to the desirability of cleaning out the supraclavicular space at the time of primary operation *in every case,* without clinical evidence of the presence of cancerous glands in this region, my experience does not support the advisability of such procedure. In none of my ten patients who have remained well from four to ten years after operation were the supraclavicular glands removed. For the present, therefore, I consider it best not to invade this region, unless glands are actually palpable at the time of operation, in which case, of course, they have to be removed, and prolonged *x*-ray treatment should be added as a possible preventive against recurrence.

Reviewing my 70 cases in this connection, it appears that in 3 patients supraclavicular involvement was evident at the time of primary operation. The glands were removed with the breast. One of these, a diabetic patient (Case 7), 65 years of age, died, 2 days later, of coma. The other 2 also died within 9 months after operation.

Six of the 70 patients developed infiltration of the supraclavicular glands from 6 months to 3 years after the primary operation (Cases 3, 16, 29, 34, 53, 61);[12] none of the patients had presented symptoms of their

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[11] I was much interested to read that Dr. J. Collins Warren of Boston has also adopted this method of operation during the past year and finds it one that he can recommend as both safe and thorough. Annals of Surgery, December, 1904.

[12] These and following numbers refer to the table attached to this article.

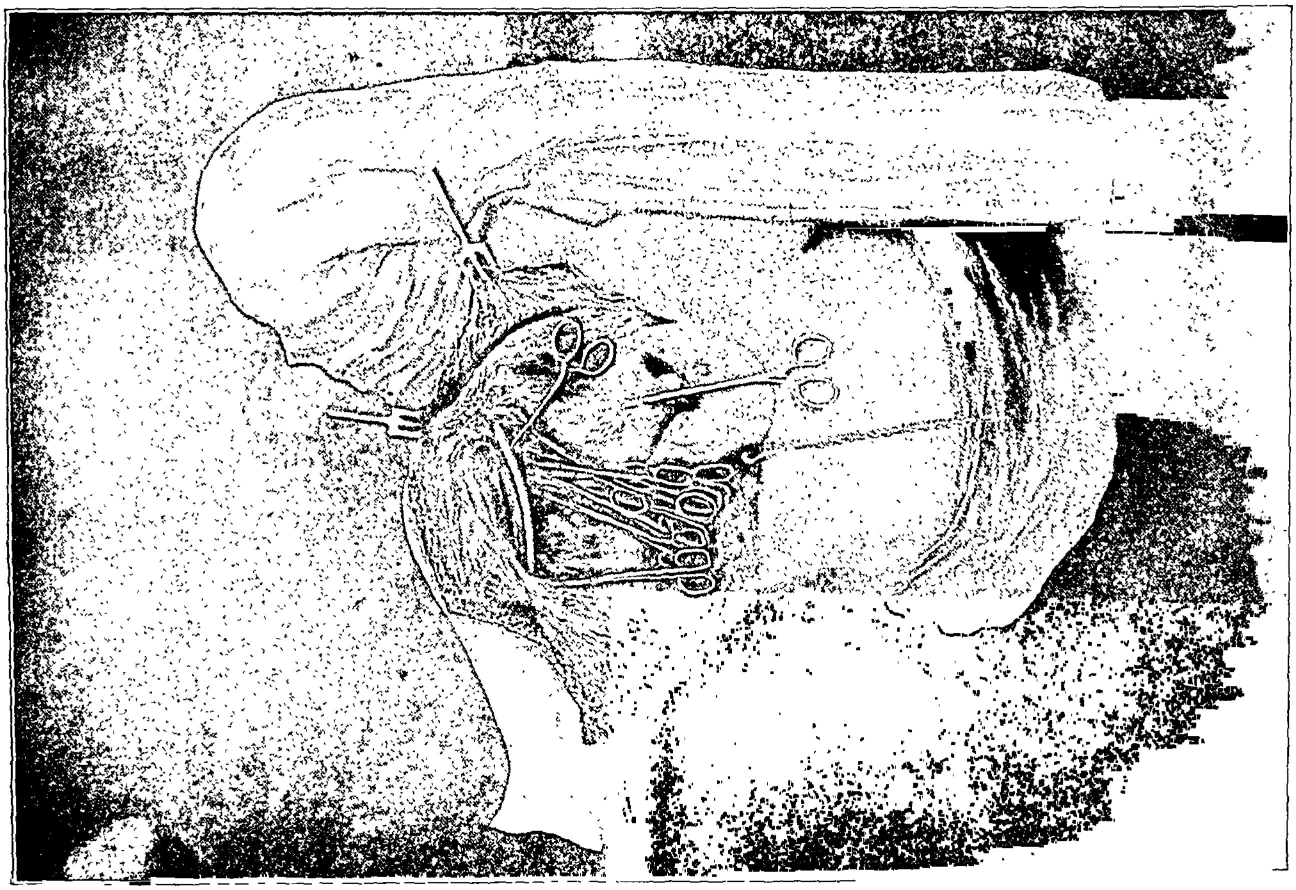

Fig. 8.—Axillary fat and glands stripped from lower surface of vein-trunks. Muscles turned inward and downward; artery forceps in place, inasmuch as ligation is done at completion of operation.

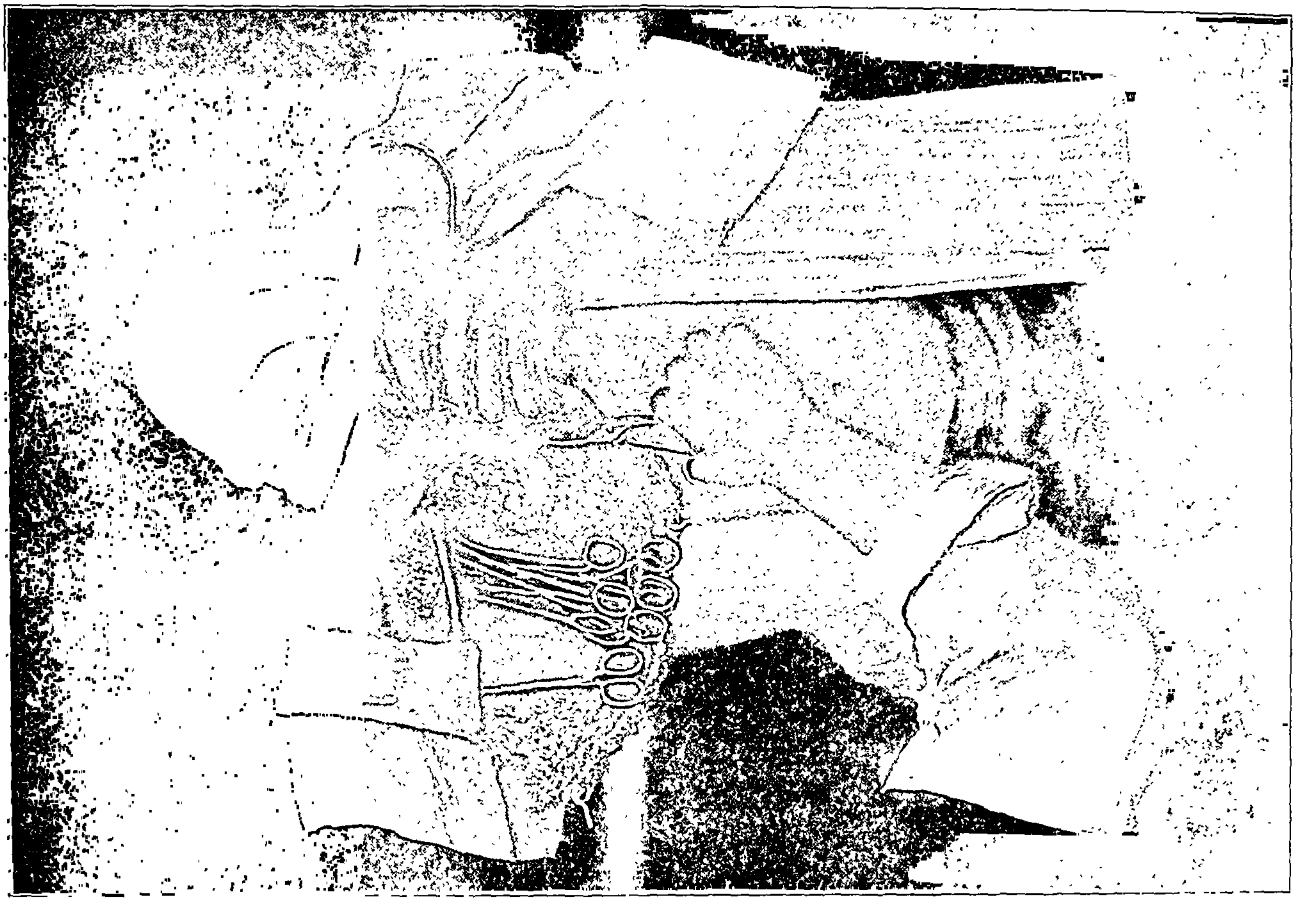

Fig. 9.—Pedicle of mass over sternum, ready to be cut off.

presence at the time of the operation. Five of these were operated on, but every one died from 6 to 9 months after this second operation.

In the new book of Poirier, Cunéo and Delamere, entitled "The Lymphatics," translated by C. H. Leaf, a very excellent account of the lymphatic distribution of the skin and the mammary circulation with reference to the lymphatic glandular drainage is given (p. 215, etc.)

In agreement with what would be suggested by the lymphatic distribution therein described, one would have to expect involvement of the supraclavicular glands only in cases in which the growth is found in the upper two quadrants of the breast, and particularly when it involves the skin and therewith the subcutaneous tissue over this region.

I shall pay strict attention to this important point in the future and excise the supraclavicular glands simultaneously with the mammary carcinoma whenever there exists cutaneous involvement of the upper portion of the breast.

It is interesting to note how sometimes one or more enlarged glands in the neck become seemingly stationary.

I have under observation one patient, operated on two years ago, in whom two small, hard, movable glands, situated in the middle of the posterior border of the respective sternocleido muscle, have remained unchanged in size and appearance for almost a year, which would suggest either that the x-ray treatment has brought about this cessation in growth, or that they were not malignant at all, but simply swollen by some irritative process. So far I could not find the indication for their removal.

As regards frequency of recurrence in the opposite breast, my record shows but 4 such cases, or 5.71 per cent. In 3 of these it occurred in conjunction with internal metastases; in the fourth the disease had evidently reached the breast directly by way of the lymphatics (25). This patient is still alive and well, 4 years and 9 months after the second operation.

In one patient with a very painful, recurrent carcinoma of the axillary cavity, treated in 1896, when I still largely used methyl violet in the treatment of inoperable cases,[13] injections with a solution of fuchsin produced great subjective improvement. Within twelve hours after one of the injections, an eruption of miliary nodules, closely resembling acute eczema, appeared and spread over the entire operating field, including the grafted area. At first I looked on the trouble as an acute eczema, but soon found that the small elevations increased in size and each developed into a rapidly growing, disseminated, carcinomatous nodule. I am at a loss to explain this phenomenon, except possibly on basis of the parasitic theory of cancer, assuming that a focus perforated into the artery supplying this part of the body, carrying infectious material into the remote capillary branches as emboli. The experience certainly seems worth recording.

Another case worth noting is that of a patient referred to me for radical operation for a rapidly growing cancer of the breast resembling cystic sarcoma, but being hard and raised. Three sisters, every one married and the mother of children, had died of cancer of the breast, in various parts of the country; there was no hereditary history. The patient's anxious look made it seem cruel to refuse operation, and so I proceeded against my better judgment; of course, informing the husband of the hopelessness of the situation.

In the second week of the after-treatment total thrombosis of the left femoral vein set in, which forced the patient to stay in a horizontal position for eight weeks. Nine months later she died of local recurrence, involving pleura and lungs. Thrombosis of the femoral vein, usually the left, is a rare sequel of amputation of the breast. It is now and then seen following major operations, especially abdominal ones.

In still another case, in which I removed a recurrent cancer of the axillary cavity, the tumor had grown into the wall of the axillary artery. Suture of the resulting defect of the arterial wall being impossible, division of the vessel between two ligatures stopped hemorrhage.[14] The patient retained perfect use of the arm until death, fifteen months later. In this case I had, two years previously, removed a tumor of a supernumerary axillary breast which, on microscopic examination, proved to be carcinoma. The outcome seems to show that radical extirpation of the whole respective breast ought to be added at once in these rare cases.

In a few instances in which the tumor seemed to belong to the benign class, local extirpation was done first. In one of these, a young girl of 19, with a deep-seated, movable tumor, the latter was found to be a melanotic sarcoma. Radical operation was done. The patient was well eight months later, when she returned to Europe. This case, while included in the number of operations done by me, is, of course, eliminated from the statistics.

In another case, an unmarried woman aged 46, the disease presented the characteristic picture of diffuse fibroma and partial extirpation was done. Microscopic examination revealed in one place, beginning unquestionably malignant disease. Radical operation was promptly added.

In one patient (aged 32) I removed a fibroadenoma (local extirpation). She was entirely well for ten years, when the radical extirpation of the same breast for carcinoma became necessary. Eight weeks after the latter operation, exploratory laparotomy revealed cancer of both ovaries with intra-abdominal metastases.

I have found that quite a few patients complain of neuralgic pains in the arm and scapula for some time after the operation, in rare instances also in the supraclavicular region. This is evidently due to traumatic neuritis and can often be overcome by electrical treatment and by the use of the x-rays. One patient, in whom scapular pains persisted (two years) after operation on the right breast is afflicted with gallstones.

It has surprised me to note how often the spinal column was the seat of metastases in my recurrent cases. This at first is frequently mistaken by physicians as well as patients, for chronic rheumatism. It is difficult, with our present knowledge of the subject, to explain this phenomenon. Some authors consider minute effusions of blood into the body of the vertebræ

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[13] Annals of Surgery, November, 1893.

[14] During the entire ten years, from September, 1894, to September, 1904, I did not come across a single case in which I had to resect the subclavian or axillary vein; while in course of the last winter I had occasion to do so three times. In every instance the subclavian plus axillary vein was removed together with the mass, from a point just below the entrance of the cephalic to a place corresponding to about the beginning of the bicipital sulcus. This procedure wonderfully facilitated the otherwise particular difficult preparation. No disturbing sequelæ, e. g., edema, embolic processes, etc., were observed. Of course, great care was taken not to tamper with the cephalic vein or with the proximal part of the subclavian beyond the entrance of the former.

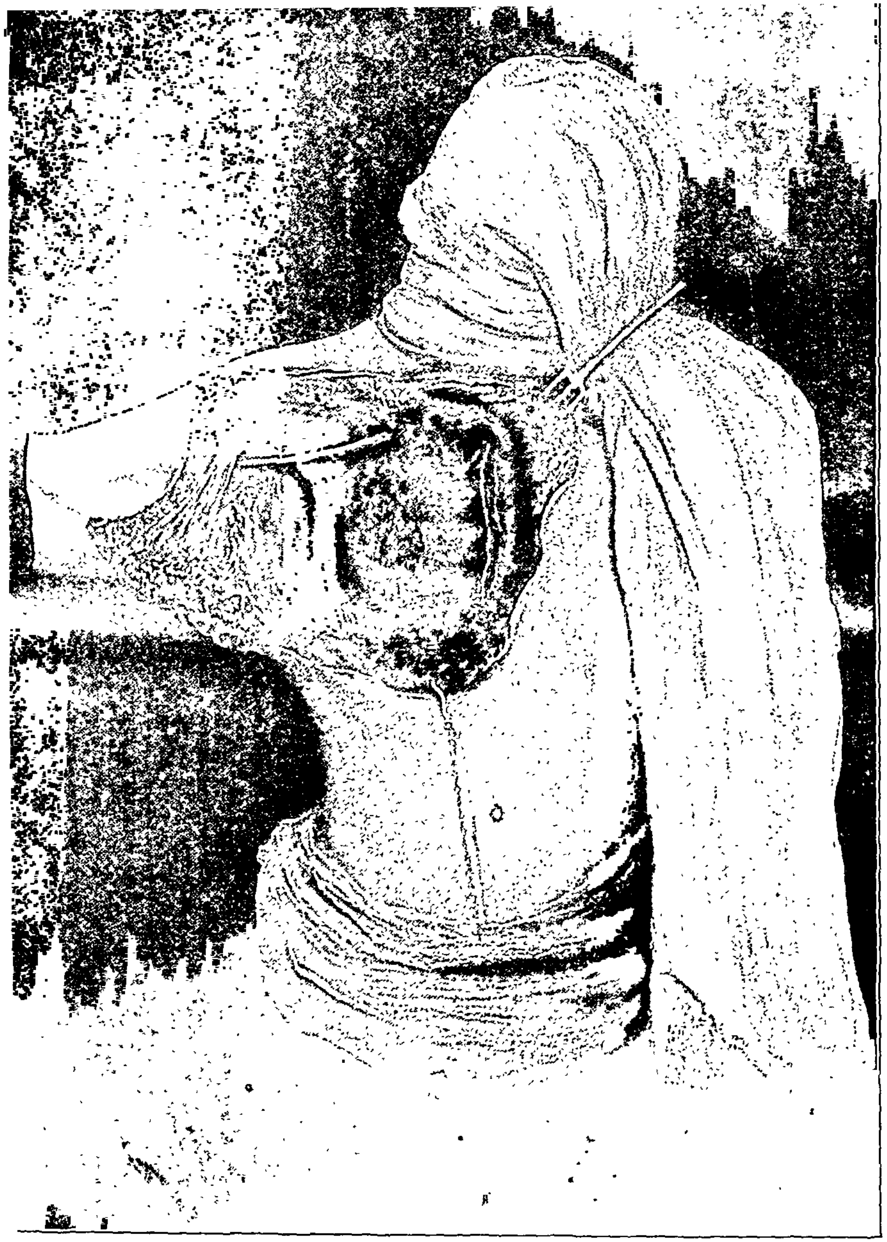

Fig. 10.—Operative field, after removal of the mass. Stump ofpectoralis minor muscle is visible.

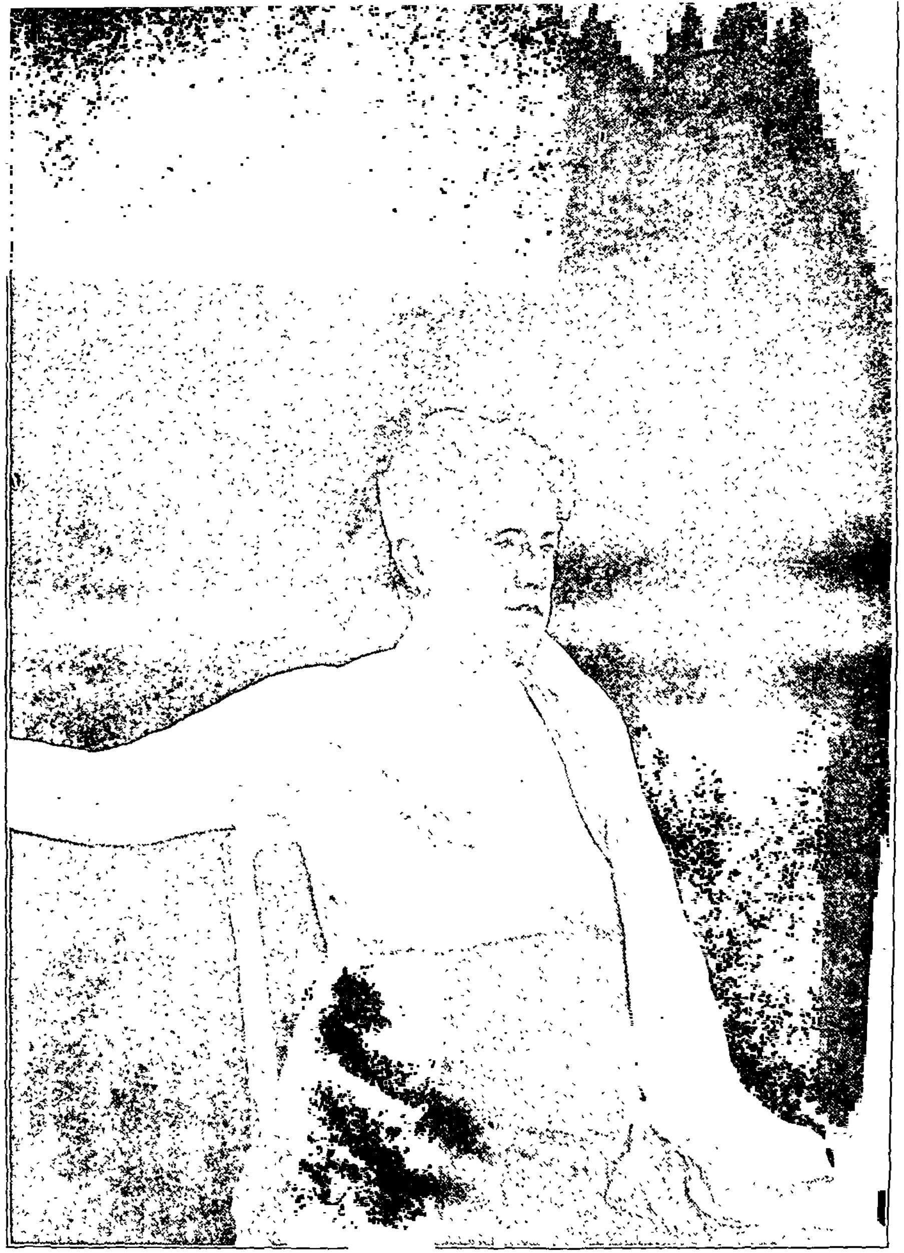

Fig. 11.—Showing reformation of axilla. See case 30 of table, operated on July 30, 1899. The irregularity of the chest wall as it appears in the illustration above the median extremity of the scar is the result of a rather protracted suppurative process over two ribs near the sternum. This was caused by the perichondrium and part of the periosteum having been stripped off the respective costal cartilages and ribs by the first assistant, who had pulled on the mass toward the completion of the operation instead of merely supporting it. Of course, necrosis followed.

as they do occur in our daily life, consecutive to slight traumatisms, a *locus minoris resistentia,* and at the same time a favorable place for the development of metastases.

While it has been my experience, also, that a somewhat retracted nipple, raised above a line drawn horizontally from the opposite nipple constitutes the pathognomonic symptom of malignant involvement in the vast majority of cases (scirrhus), the absence of this sign should not influence the surgeon against the diagnosis of malignant disease, as the tumor may be an adenocarcinoma. At a time when I attributed rather too much weight to this symptom, a clinically doubtful case came under my care. The tumor was comparatively small, freely movable and the skin was not adherent; the nipple was not raised, but on the contrary, rather lower than on the other side, and not retracted. I contented myself with simple extirpation of the breast and axillary glands. Microscopic examination proved the tumor to be an adenocarcinoma. Prompt secondary radical operation was refused. This patient soon developed a rapidly growing local recurrence, evidently springing from the fascia of the pectoralis major muscle.

My cases show clearly that wherever local recurrence has been observed, the grafted area was of small size; in other words, local recurrence has appeared when skin was saved when making the first cutaneous incisions. I have, therefore, made it a rule during the last few years to have the skin incision completely encircle the *very base* of the breast, a step which I consider most essential.

As regards the time limit at which a patient may be considered cured, I would mention the following case which again shows the fallacy of accepting a three or five years' freedom from recurrence as proof of a cure:

This patient (17) was operated on in February, 1897 and while she considers herself well to-day, reexamination in March, 1905, showed a regional recurrence in the shape of a few small, disseminated nodules below and at the inner border of the area grafted on. The patient states she first noticed these a few weeks ago, but attached no importance to them.

Volkman's view that "after two years usually, and after three years almost without exception, one may feel sure of the result" certainly can no longer be accepted as correct.

A very interesting article on the question of what constitutes a cure after operation for cancer, has recently been brought out by Jordan of Heidelberg in an article entitled "Late Recurrences of Carcinoma."[15]

In this he proves that the so-called permanent cures are frequently merely a temporary cure of longer duration. It is true that the greatest number of recurrences occur in the first or second year after extirpation of the growth, and this is the reason that prompted surgeons to the establishment of the "three-year limit" which gynecologists have of late extended to five years. Jordan states: "It seems the great majority of cancerous tumors develop rapidly and, hence, are followed rapidly by recurrence, usually within the first or second year after operation. However, a small percentage grow slowly and in these the recurrence, likewise, appears a longer time after operation, from 4 to 6 to 8, 12 or even 20 years later."

He adds that "in view of such experience it may well seem a question as to whether we are ever justified in pronouncing a patient cured after operation for cancer."

In this latter statement I do not agree with Jordan. I believe in a cure of cancer, provided operation be done at an early stage of the disease.

STATISTICS.

Statistics are not always fair. If the originator of a method of operation selects his cases, the statistical results will of course commend the procedure. If, on the other hand, he employs the method regardless of statistics, the results may be misleading. In cancer of the breast, for example, the virulence of the disease, or the invisible advance made by the neoplasm into the surrounding parts or into remote parts of the body, often mar the result of the most excellent operative procedure.

My cases have been operated on as they came along unless they were absolutely inoperable. This has been my course, because to refuse an operation, would be equal to passing final judgment, or prematurely signing the patient's death certificate. The only case, that of a patient with a rather far advanced scirrhus of several years' growth, in which I advised postponement of operation, on account of good general condition and an intended trip South, called in another surgeon, who promptly amputated the breast. It stands to reason that by operating almost indiscriminately, my statistics have not been improved.

From September 1894, to September 1904, I have done this operation 74 times in 72 patients One was performed in order to be as radical as possible after a small, movable, encapsulated tumor had been removed, which, on microscopic examination, proved to be a melanosarcoma. Another patient also operated on radically, had a very large cystosarcoma of the breast. Both of these cases will, of course, not be counted in the statistics, which relate to carcinoma only. Thus 70 cases with 72 operations remain to be considered.

Of these, 69 patients were female, and 1 male; the youngest female being 28 years, the oldest 72; the man was 44 years old. Classified into decades, I have had:

1 patient from 20 to 30 years of age.
13 patients from 30 to 40 years of age.
32 patients from 30 to 40 years of age.
14 patients from 40 to 50 years of age.
7 patients from 50 to 60 years of age.
2 patients from 60 to 70 years of age.
1 patient from 70 to 80 years of age.
70 cases.

Forty-four cases were private patients; 26 patients were operated on in the wards. Of the former, I have careful records as to their subsequent history; of the latter, three could not be located at the time of my last investigation, from January to March of this year.

In a great city like New York, with its ever-shifting population, it is not an easy task to keep track of one's patients operated on at the wards of the various hospitals. I owe it to the untiring efforts of Dr. Martin Rehling, of this city, that I am in a position to present correct statistics regarding all but three of my ward cases. I gratefully acknowledge this, and thank him once more at this place, for the kind assistance rendered.

Deducting the three patients who could not be
67 remain for consideration here. Thirty of
were operated on from 5 to 10 years ago, i. e.,
September 1894 and September 1899, and of th

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[15] Deuts. med. Wochft., 1904, June 16, p. 912.

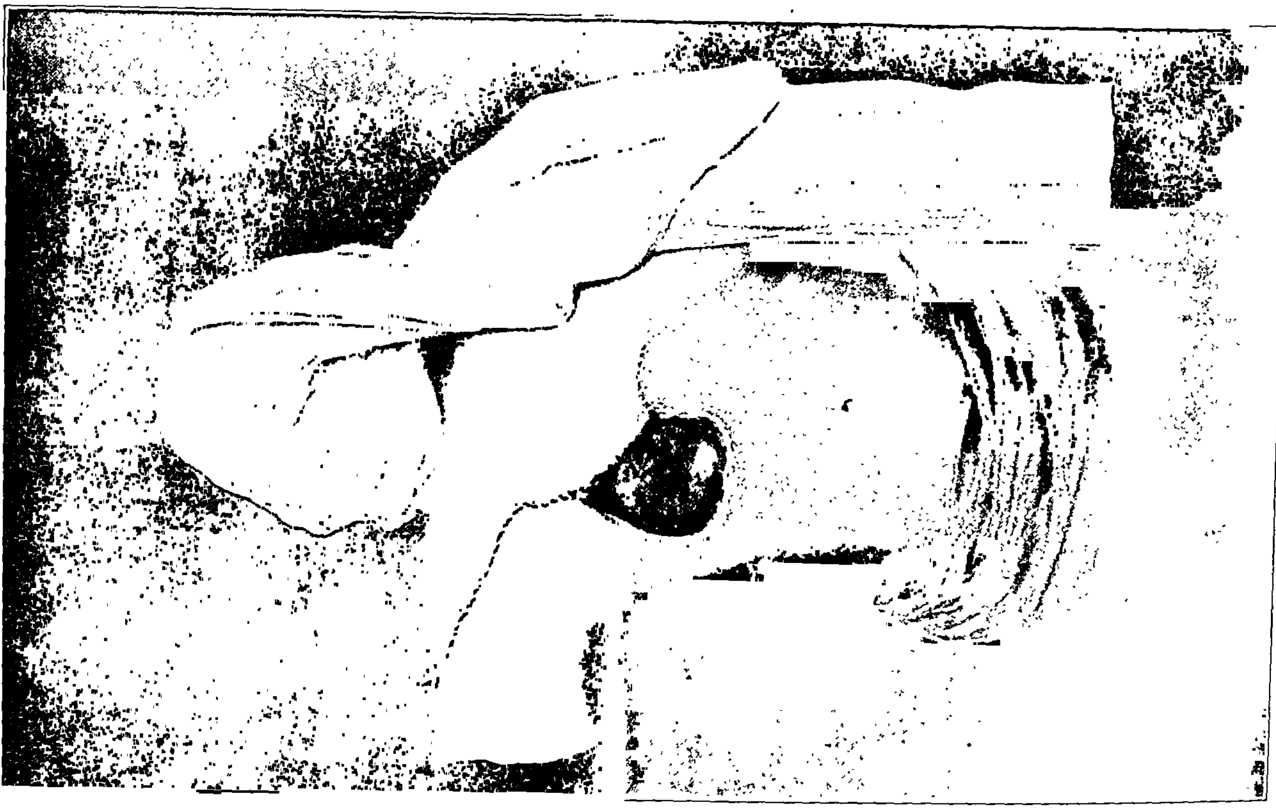


Fig. 12.—Drainage tubes inserted, skin sutured. Within the resulting defect which is not yet reduced, the stump of the belly of the pectoralis minor is visible.

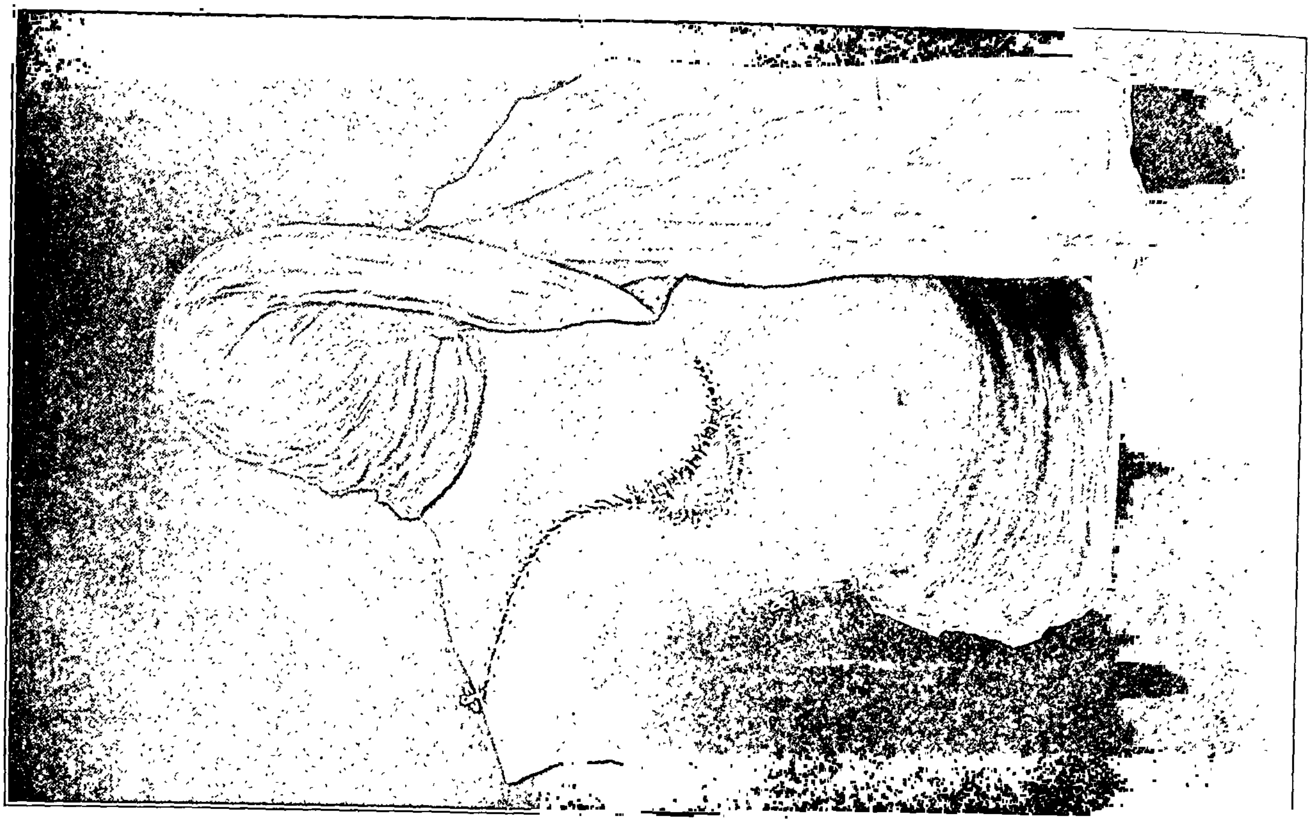
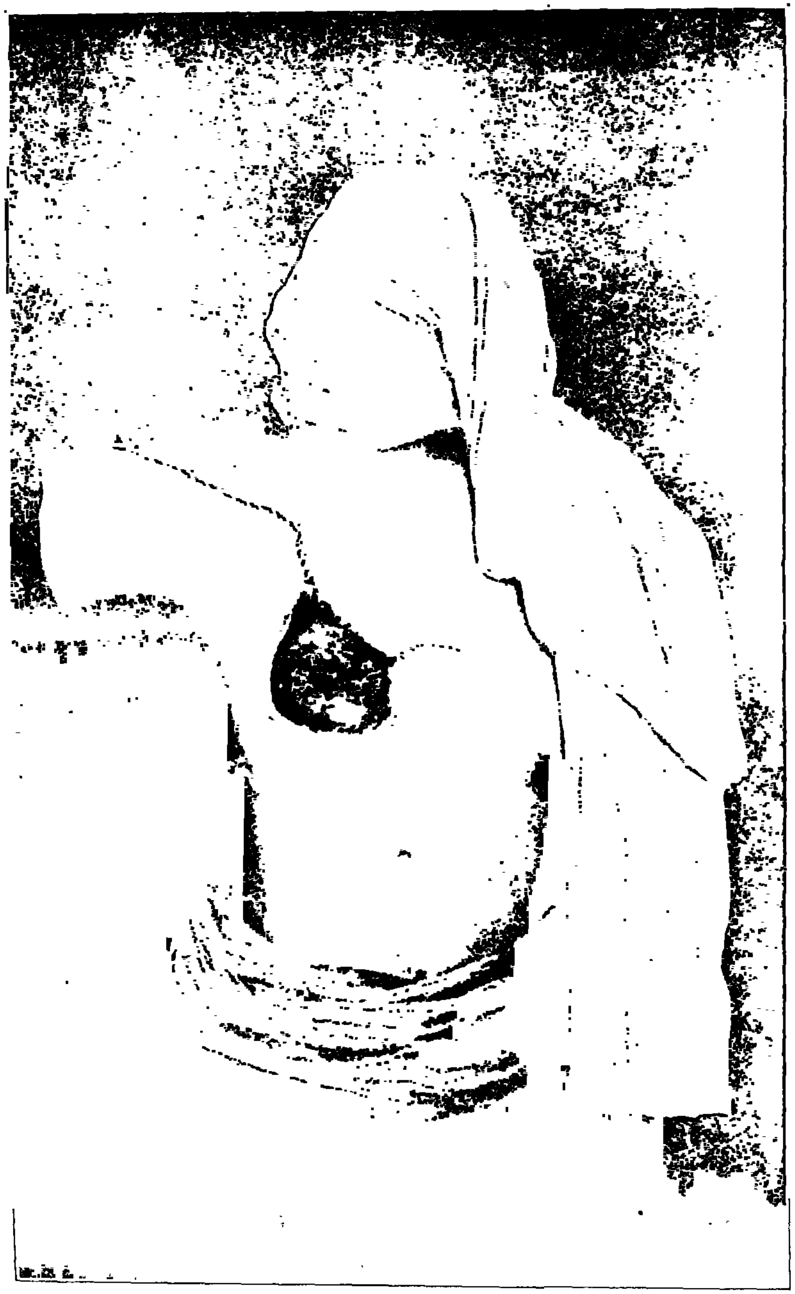


Fig. 13.—Showing the difference in size of the defect after its lower border has been stitched to the stump of the pectoralis minor, by means of continuous catgut suture, and its upper one fastened to the chest wall with a few interrupted stitches.

TABLE OF RADICAL OPERATIONS FOR CARCINOMA OF THE BREAST.

No.	Date of Operation.	Name and Age. Married or Single.	Result.[16]		Remarks.
			Alive, Present Condition.	Died. Cause of Death.	
1	1894, September 19	H. O., 39, m.	Alive and well		
2	1895, March	I. S., 48, s.	Alive and well		
3	October	L. H., 47, s.	....	Died Oct. 1896; regional recurrence (e) disseminated cancer *en cuirasse.*	Extirpation [illegible] March 13, 1896; re- [illegible] section of [illegible] nated cancer appeared [illegible] injection of fuchsin solution.
4	November	L. D., 55, m.	....	Died July 2, 1902; endocarditis according to postmortem (coroner's case.)	
5	December	A. H., 46, m.	....	Died March 1896; intestinal metastases, and diabetes.	
6	1896, February	J. W., 60, m.	Alive and well		Radical operation plus extirpation of supraclavicular glands.
7	March	C. R., 65, m.	....	Died 2 days after operation; diabetic coma.	
8	May	P. G., 47, m.	....	Died December, 1898; local recurrence; later metastases.	January 26, 1894, excision of cancer of supernumerary axillary breast, same side; May, 1896, radical operation of breast; Oct., 1897, axillary recurrence; extirpation; ligation of axillary artery.
9	May	A. L., 59, m.	....	Died April, 1897; internal metastases.	
10	May	M. M., 40, s.	Not traced		
11	June	M. C., 69, m.	....	Died Feb. 1900; internal metastases.	
12	July	R. S., 46, m.	....	Died Oct. 1897; internal metastases.	
	September	G. K., 18, s.	....	....	Melanosarcoma; well 9 months later; left for Europe.[17]
13	October	E. A., 48, m.	....	Died Dec. 1897: internal metastases.	
14	October	B. J., 57, m.	....	Died Aug. 1900; internal metastases.	
15	December	I. H., 49, m.	....	Died March, 1899; internal metastases.	
16	1897, January	I. E., 72, m.	....	Died Nov. 1898; internal metastases.	July, 1898, extirpation of supraclavicular glands.
17	February	R. R., 45, m.	Alive	....	Regional recurrence within last three months.
18	September	E. W., 36, m.	....	Died July, 1900; internal metastases.	
19	October	W. F., 38, m.	Alive and well		
20	1898, June	S. S., 44, m.	....	Died Jan. 1899; internal metastases.	
21	December	M. K., 43, m.	Alive and well		
22	1899, January	M. R., 46, m.	Not traced		
23	February	A. S., 37, m.	....	Died Jan. 1900; internal metastases.	Resection of rib at time of operation on account of involvement; temporary pneumothorax.
24	March	J. C., 60, m.	....	Died Nov. 1899; internal metastases.	
25	March	L. L., 44, m.	Alive and well	....	[illegible] cancer of right breast; [illegible] cancer of left breast. [illegible] 41).
26	May	S. E., 53, m.	....	Died April, 1901; internal metastases.	
27	May	V. B., 64, m.	....	Died Jan. 1901: internal metastases.	
28	May	F. S., 39, m.	Not traced		
29	June	M. F., 46, m.	....	Died Feb. 1903; internal metastases.	July, 1902, extirpation of supraclavicular glands.
30	July	J. T. S., 56, m.	Alive and well		
31	October	R. G., 45, m.	....	Died July, 1904, internal metastases.	Four weeks before radical operation excision of a portion of tumor for diagnostic purposes, by another surgeon.
2	December	C. R., 36, m.	....	Died Oct. 1900; local recurrence and metastasis.	Far advanced case; father, mother and three sisters died of cancer.
33	December	A. B., 38, m.	....	Died March, 1901; regional recurrence.	
34	1900, February	M. T., 36, m.	....	Died Dec. 1902; internal metastases	May, 1900, extirpation of supraclavicular glands.
35	March	A. G., 61, m.	Alive and well		
	April	K. H., 47, m.	....	....	Cystosarcoma.
36	May	M. S., 54, m.	....	Died June. 1901: internal metastases.	Diabetis for many years.
37	June	A. L., 70, m.	Alive and well		
38	July	R. G., 59, m.	....	Died Feb. 1901; regional recurrence.	Far advanced case.
39	October	B. E., 43, m.	Alive and well		
40	October	M. T., 57, m.	Alive	....	Regional recurrence and metastases found on examination March, 1905, said to have appeared within last three months.
41	October	J. H., 43, m.	....	Died Nov. 1901; internal metastases.	Two years previous, fibroadenoma diagnosticated, advice to remain under strict observation not heeded; re-examination in October 1901, pronounced carcinoma.
42	December	L. L., 45, m.	Alive and well, Con'f. No. 25	....	Extirpation of left breast now; extirpation of right breast preceding year, March 1899.
	1901, July	H. S., 49, m.	....	Died April, 1902; hematemesis from cancer of stomach.	Death 2 days after radical operation for cancer of second breast; done 9 mos. later. (See unnumbered case following 47). First amputated 9 months previously, July 1901.
43	November	M. N., 40, m.	....	Died June, 1902, internal metastases.	Nir [illegible] ıst by another s [illegible] fter, the latter a [illegible] bove clavicle. T [illegible] ɔralis muscles.
44	December	D. M., 59, m.	....	Died Nov. 1902; local recurrence and internal metastases.	Fa [illegible]
45	December	A. L., 58, m.	Alive and well		
46	December	P. R., 34, m.	....	Died April, 1903; internal metastases.	Four married sisters in various parts of the country, had died of cancer of the breast.
47	1902, April	R. H., 54, m.	....	Died Feb. 1903; regional recurrence.	Radical operation plus extirpation of supraclavicular glands; far advanced case.
	April	H. S., 50, m.	....	Died two days after operation on second breast, of hematemesis from cancer of stomach.	Nine months before operation for cancer of other breast. (See case 42).
48	July	S. B., 42, m.	Alive and well		
49	October	S. L., 31, m.	....	Died Jan. 1904; internal metastases.	
50	October	E. V., 42, m.	Alive and well		
51	November	J. F., 35, m.	Alive	....	Two suspicious glands posterior to sternocleido muscle, stationary for last eighteen months.
52	November	M. E., 64, m.	Alive and well	Died Dec. 1903; internal metastases.	
53	November	L. C., 47, m.	....	Died June, 1903, internal metastases.	Removal of supraclavicular glands December, 1902.
54	1903, January	A. L., 42, m.	....		Ten years before, in 1893, extirpation of adenofibroma of same breast; 10 years later developed cancer on same side; Jan. 1903, radical operation; April 1903, laparotomy for double ovarian carcinoma; inoperable.
55	April	B. S., 45, m.	Alive and well		
56	June	F. M., 43, m.	Alive and well		
57	June	T. B., 38, m.	....	Died March, 1904; local recurrence and internal metastases.	Sister of patient No. 46; far advanced case; rapidly growing tumor of enormous size; post-operative phlebitis of left femoral vein.
58	July	B. W., 58, m.	Alive and well	....	Many small infiltrated glands removed from around axillary and subclavian veins; prolonged *x*-ray treatment.
59	July	W. H., 45, m, male.	Alive and well		
60	August	P. G., 49, m.	Alive and well		
61	October	J. S., 58. m.	Alive	....	March 1905, infiltration of supraclavicular glands found disease far advanced at time of operation.



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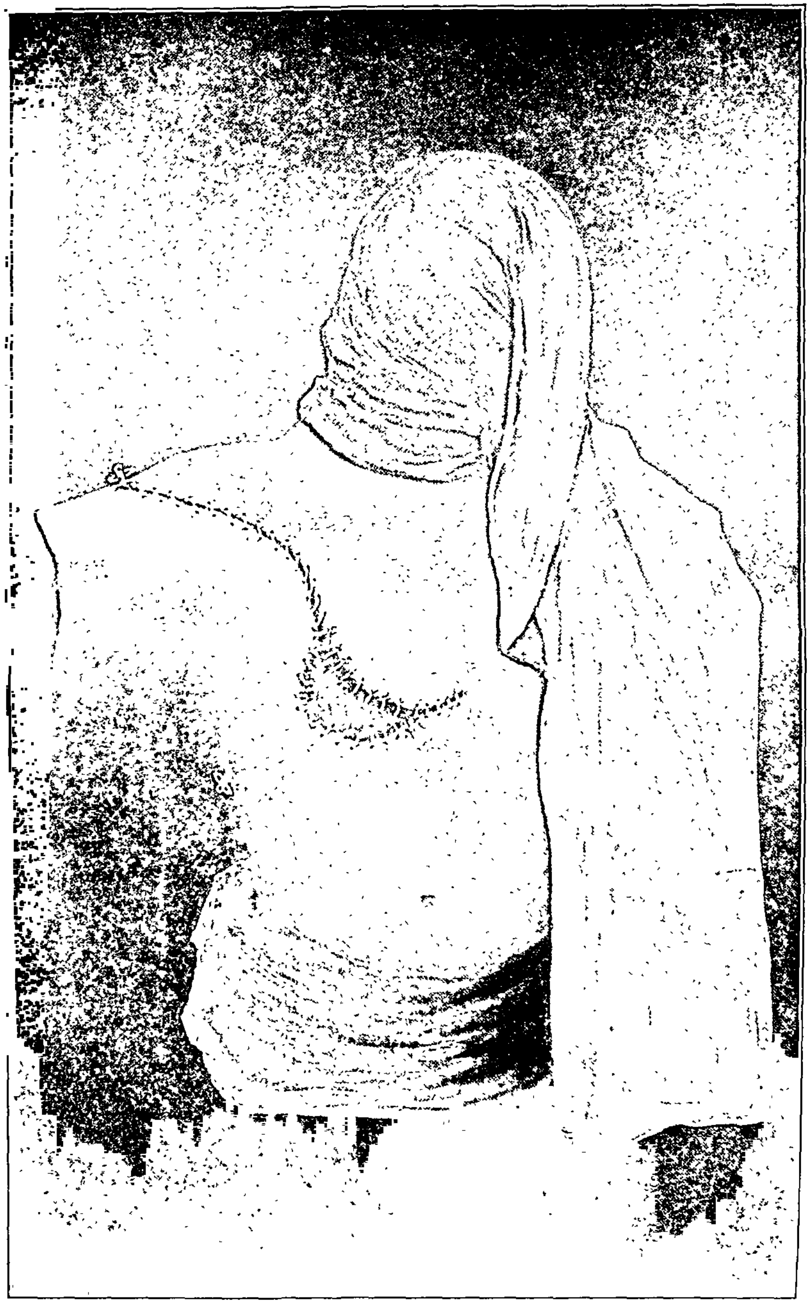

Fig. 13.—Showing the difference in size of the defect after its lower border has been stitched to the stump of the pectoralis minor, by means of continuous catgut suture, and its upper one fastened to the chest wall' with a few interrupted stitches.

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2	1895, March....	I. S., 48, s.....	Alive and well		
3	October.....	L. H., 47, s....	....	Died Oct. 1896; regional recurrence (e) disseminated cancer *en cuirasse.*	Extirpation of supraclavicular glands, March 13, 1896; resection of cancer of rib. April 2. disseminated cancer appeared suddenly after parenchymatous injection of fuchsin solution.
4	November....	L. D., 55, m..	....	Died July 2, 1902; endocarditis according to postmortem (coroner's case.)	
5	December...	A. H., 46, m....	....	Died March 1896; intestinal metastases, and diabetes.	
6	1896, February..	J. W., 60, m...	Alive and well		
7	March......	C. R., 65, m....	....	Died 2 days after operation; diabetic coma.	Radical operation plus extirpation of supraclavicular glands.
8	May.......	P. G., 47, m...	....	Died December, 1898; local recurrence; later metastases.	January 26, 1894, excision of cancer of supernumerary axillary breast, same side; May, 1896, radical operation of breast; Oct., 1897, axillary recurrence; extirpation; ligation of axillary artery.
9	May.......	A. L., 59, m....	....	Died April, 1897; internal metastases.	
10	May.......	M. M., 40, s...	Not traced..		
11	June.......	M. C., 69, m...	....	Died Feb. 1900; internal metastases.	
12	July.......	R. S., 46, m....	....	Died Oct. 1897; internal metastases.	
	September...	G. K., 18, s...	....	....	Melanosarcoma; well 9 months later; left for Europe.[17]
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17	February....	R. R., 45, m....	Alive.....	....	Regional recurrence within last three months.
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20	1898, June.....	S. S., 44, m....	....	Died Jan. 1899; internal metastases.	
21	December....	M. K., 43, m...	Alive and well		
22	1899, January....	M. R., 46, m...	Not traced..		
23	February.....	A. S., 37, m....	....	Died Jan. 1900; internal metastases.	Resection of rib at time of operation on account of involvement; temporary pneumothorax.
24	March.....	J. C., 60, m....	....	Died Nov. 1899; internal metastases.	
25	March......	L. L., 44, m....	Alive and well	....	March 24, 1899, radical operation for cancer of right breast; Dec. 7, 1900, radical operation for cancer of left breast. (See unnumbered case following 41).
26	May.......	S. E., 53, m....	....	Died April, 1901; internal metastases.	
27	May.......	V. B., 64, m....	....	Died Jan. 1901: internal metastases.	
28	May.......	F. S., 39, m....	Not traced..		
29	June.......	M. F., 46, m..	....	Died Feb. 1903; internal metastases.	July, 1902, extirpation of supraclavicular glands.
30	July.......	J. T. S., 56, m..	Alive and well		
31	October.....	R. G., 45, m....	....	Died July, 1904, internal metastases.	Four weeks before radical [illegible] excision of a portion of tumor [illegible] by another surgeon.
2	December.....	C. R., 36, m....	....	Died Oct. 1900; local recurrence and metastasis.	Far advanc [illegible] and three sisters died of cancer.
33	December.....	A. B., 38, m....	....	Died March, 1901; regional recurrence.	
34	1900, February..	M. T., 36, m...	....	Died Dec. 1902; internal metastases	May, 1900, extirpation of supraclavicular glands.
35	March......	A. G., 61, m....	Alive and well		
	April.......	K. H., 47, m...	....	....	Cystosarcoma.
36	May.......	M. S., 54, m....	....	Died June. 1901; internal metastases.	Diabetis for many years.
37	June.......	A. L., 70, m....	Alive and well		
38	July.......	R. G., 59, m....	....	Died Feb. 1901; regional recurrence.	Far advanced case.
39	October......	B. E., 43, m....	Alive and well		
40	October.....	M. T., 57, m....	Alive.....	....	Regional recurrence and metastases found on examination March, 1905, said to have appeared within last three months.
41	October....	J. H., 43, m...	....	Died Nov. 1901; internal metastases.	Two years previous, fibroadenoma diagnosticated, advice to remain under strict observation not heeded; re-examination in October 1901, pronounced carcinoma.
42	December....	L. L., 45, m....	Alive and well, Con'f. No. 25	....	Extirpation of left breast now; extirpation of right breast preceding year, March 1899.
	1901, July.....	H. S., 49, m....	....	Died April, 1902; hematemesis from cancer of stomach.	Death 2 days after radical operation for cancer of second breast; done 9 mos. later. (See unnumbered case following 47). First amputated 9 months previously, July 1901.
43	November....	M. N., 40, m...	....	Died June, 1902, internal metastases.	Nine montl [illegible] of breast by another surgeon, [illegible] soon after, the latter appear simultaneously in axilla and above clavicle. They are extirpated together with the pectoralis muscles.
44	December....	D. M., 59, m...	....	Died Nov. 1902; local recurrence and internal metastases.	Far advanced case; patient weighed 380 lbs.
45	December....	A. L., 58, m....	Alive and well		
46	December....	P. R., 34, m....	....	Died April, 1903; internal metastases.	Four married sisters in various parts of the country, had died of cancer of the breast.
47	1902, April.....	R. H., 54, m....	....	Died Feb. 1903; regional recurrence.	Radical operation plus extirpation of supraclavicular glands; far advanced case.
	April......	H. S., 50, m....	....	Died two days after operation on second breast, of hematemesis from cancer of stomach.	Nine months before operation for cancer of other breast. (See case 42).
48	July.......	S. B., 42, m....	Alive and well		
49	October.....	S. L., 31, m....	....	Died Jan. 1904; internal metastases.	
50	October.....	E. V., 42, m....	Alive and well		
51	November....	J. F., 35, m....	Alive.....	....	Two suspicious glands posterior to sternocleido muscle, stationary for last eighteen months.
52	November....	M. E., 64, m...	Alive and well		
53	November....	L. C., 47, m....	....	Died Dec. 1903; internal metastases.	Removal of supraclavicular glands December, 1902.
54	1903, January...	A. L., 42, m....	....	Died June, 1903, internal metastases.	Ten years before. in 1893, extirpation of adenofibroma of same breast; 10 years later developed cancer on same side; Jan. 1903, radical operation; April 1903, laparotomy for double ovarian carcinoma; inoperable.
55	April.......	B. S., 45, m....	Alive and well		
56	June.......	F. M., 43, m....	Alive and well		
57	June.......	T. B., 38, m....	....	Died March, 1904; local recurrence and internal metastases.	Sister of patient No. 46; far advanced case: rapidly growing tumor of enormous size; post-operative phlebitis of left femoral vein.
58	July.......	B. W., 58, m....	Alive and well	....	Many small infiltrated glands removed from around axillary and subclavian veins; prolonged *x*-ray treatment.
59	July.......	W. H., 45, m, male.	Alive and well		
60	August.......	P. G., 49, m....	Alive and well		
61	October......	J. S., 58, m....	Alive.....	....	March 1905, infiltration of supraclavicular glands found disease far advanced at time of operation.

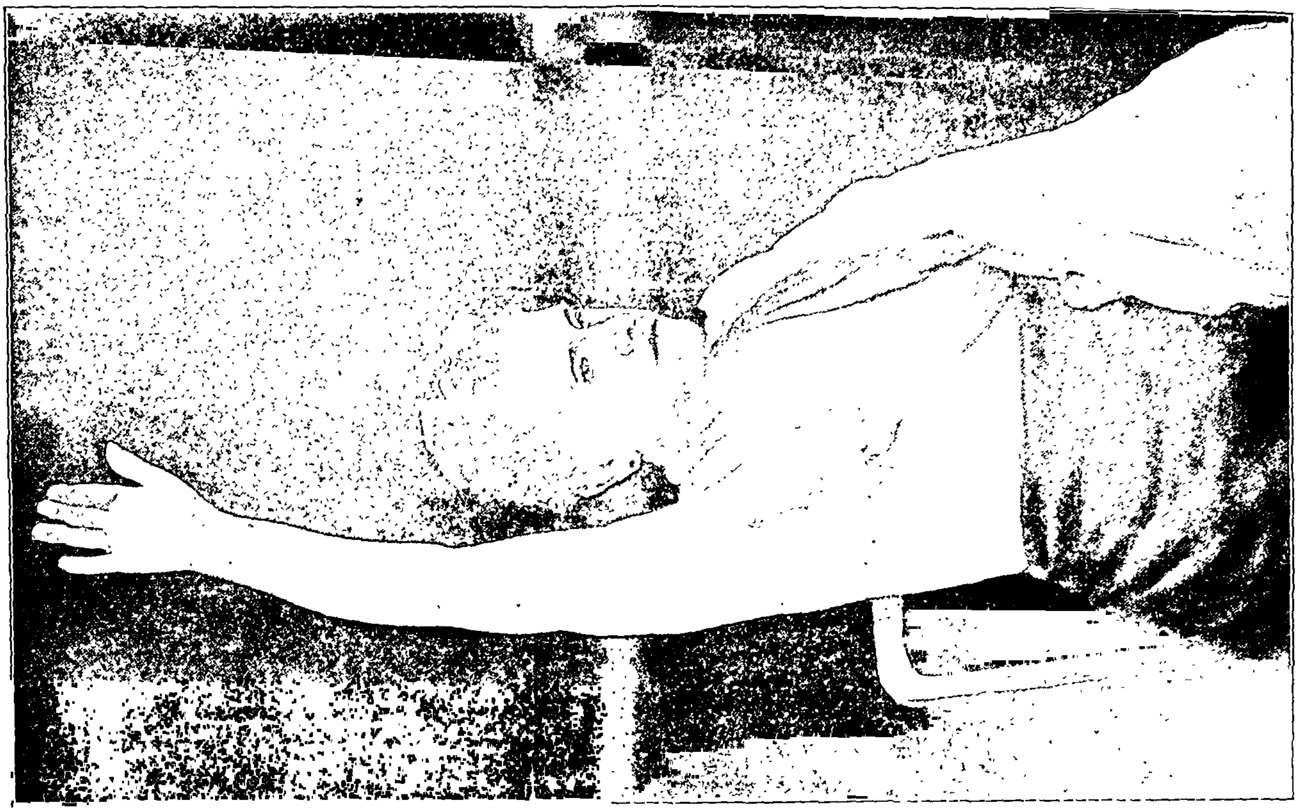

Fig. 15.—Showing posture of Statue of Liberty.

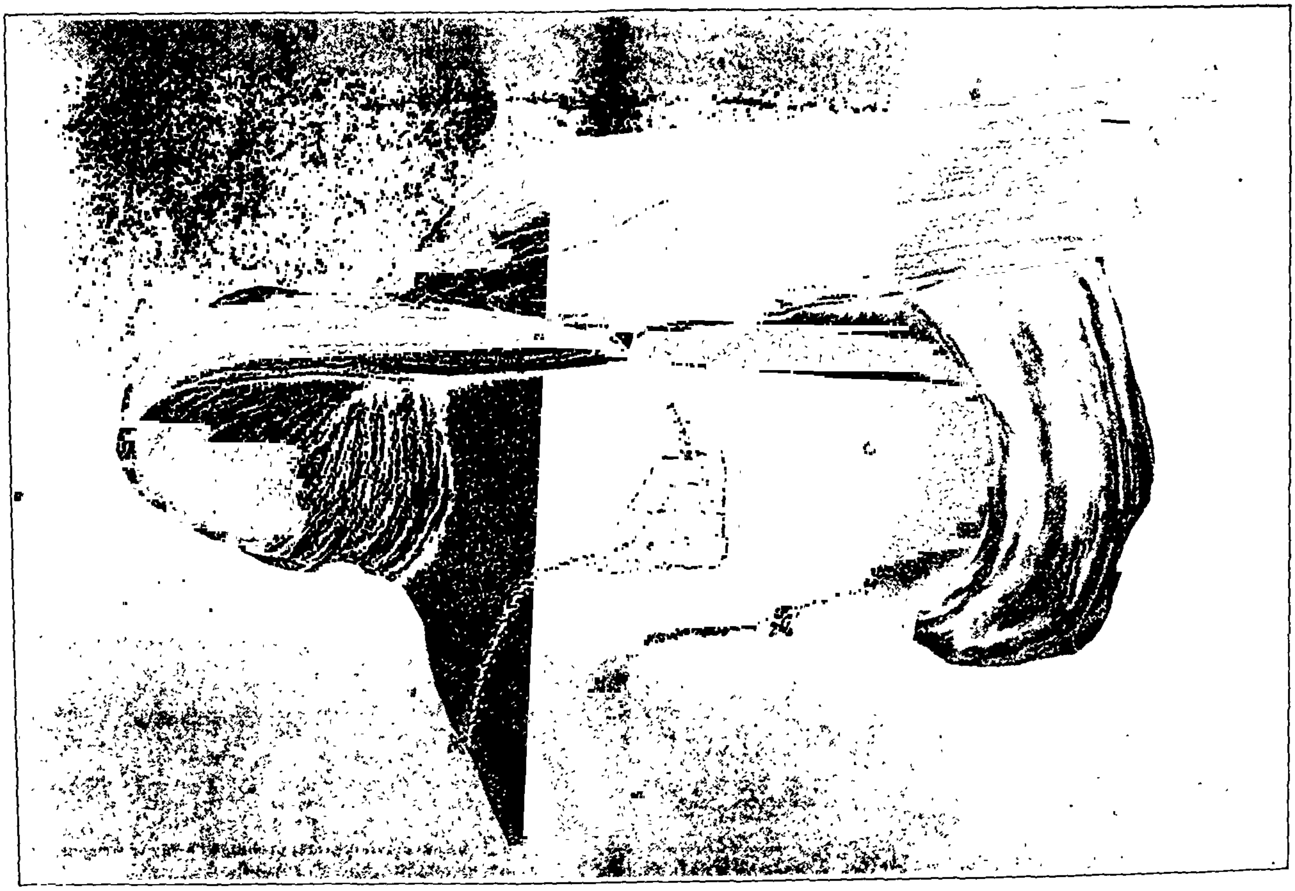

Fig. 14.—Operation completed with skin grafts in place, the latter overlapping defect borders for a short distance.

TABLE OF RADICAL OPERATIONS FOR CARCINOMA OF THE BREAST. (Continued.)

No.	Date of Operation.	Name and age. Married or Single.	RESULT.[16] Alive, Present Condition.	Died. Cause of Death.	Remarks.
62	December. . . .	M. A. L., 54, s.	. . . .	Died Jan. 1905; internal metastases.	Far advanced at time of operation; tumor had grown through both pectoralis muscles.
63	December. . . .	N. E., 44, m. . . .	Alive	. . . .	Internal metastases found in March, 1905.
64	December. . . .	I. W., 45, m. . . .	Alive and well		
65	1904, January. . . .	J. K., 38, m. . . .	. . . .	Died Aug. 1904; internal metastases.	Death occurred 2 weeks after extirpation of opposite breast for carcinoma, done by another surgeon.
66	January	A. N., 28, s.	Alive and well	. . . .	Clinically appeared fibroadenoma, small piece excised proved carcinoma on microscopic examination; radical operation done 2 days later.
67	March	R. H., 48, s.	Alive and well	. . . .	First amputation of breast for seeming adenofibroma; l undoubted beginning ation promptly added.
68	April	O. B., 54, m. . . .	Alive	. . . .	R , also metastases in opposite breast.
69	June	J. B., 69, m. . . .	Alive and well		
70	September. . . .	F. K., 48, m. . . .	Alive and well		

16. In the nomenclature "local and regional recurrence" I have followed Halsted's interpretation (Annals of Surg. 1894, p. 497): Local recurrence is a return of the disease in the field of operation, in the apparent or buried scar, viz., a return of the disease in any part of the explored regions. Regional recurrence designates skin metastasis at a greater or less distance from the scar.

17. The four unnumbered cases in this table represent two sarcomata and two in which the disease had recurred in the opposite breast. Of course, the latter are counted once only in giving the number of patients operated on; they are enumerated, however, in order to show the number of times the operation was performed by me.

ber are alive and well to-day 7, or 23.3 per cent.,[18] viz.:

Case No. 1, 1 well 10 years after operation.
Case No. 2, 1 well 9 years after operation.
Case No. 6, 1 well 8 years after operation.
Case No. 19, 1 well 7 years after operation.
Case No. 21, 1 well 6 years after operation.
Cases Nos. 25, 30, 2 well 5 years after operation.

An eighth (Case No. 17), who was operated on eight years ago, has developed a regional recurrence.

Twelve patients were operated on from three to five years ago, i. e., between September, 1899 and September, 1901. Of these, four, or 33.3 per cent., are alive and well to-day, from four to five years after operation, viz., Cases 25, 35, 37, 39.

In Case 25, the patient was operated on by me for cancer of the right breast in March, 1899. In December 1900, she returned to me with a cancer of the left breast, which I then also extirpated by the same method. She has been well and free from recurrence since—surely, an exceptional case.

A fifth patient, operated on in October, 1900, and who never presented herself for re-examination until March 1905, showed a local recurrence as well as a metastatic tumor in the skull which, she claims, developed in the course of the last few months.

From the above figures it appears that of 42 patients operated on 11 (12 operations), or 26.1 per cent., have remained free from recurrence from four to ten years after operation.

Of 28 patients operated on during the last three years, i. e., from September 1901 to September 1904, 14 are alive and well to-day, viz., Nos. 45, 48, 50, 52, 55, 56, 58, 59, 60, 64, 66, 67, 69, 70.

Of these, two were operated on from September 1901 to September 1902; seven from September 1902 to September 1903; the remaining five within the last year.

Four other patients operated on since September 1901, though alive to-day, have developed recurrences, One (51) has two small stationary glands posterior to the middle of the sternocleido mastoid muscle of the same side. Operation, November, 1902.[19] A second patient (61), operated on in October, 1903, has developed supraclavicular glands on the same side; the third (63), operated on in December, 1903, shows metastasis of the spinal column; the fourth (68), operated on in April, 1904, who had carried her scirrhus for more than two years before operation and failed to undergo x-ray after treatment, has a local recurrence.

Thus, of the entire 67 patients traced, 24, or 35.8 per cent., are alive and well to-day; 6 others, or 8.9 per per cent., though living, have developed either local, regional or metastatic recurrent growths. Thirty-five, or 52.3 per cent., have since died of the disease, viz., 4, or 5.97 per cent., of regional recurrence; the same number (4) of local recurrence plus metastases, and 27, or 40.3 per cent., of metastases.

Two other patients have died from causes not connected with the disease, i. e., one (Case 7), of diabetic coma, and one (Case 4), after being well and free from recurrence for nearly 7 years, succumbed to endocarditis (coroner's case).

Reviewing my ten years' experience with this method, I am convinced that final results could be further improved only, if we could get patients to come earlier for operation. The important task before us, therefore, is that of educating the public. Patients must be taught to lose their fear of "a surely resulting stiffness of the arm and sure recurrence"; they must be shown the absurdity of carrying a tumor, often for years, without consulting a physician, sometimes hiding its presence even from their nearest of kin.

In view of the excellent results that can be obtained by radical operation—functional as well as otherwise—physicians, too, should advise early operation not only in the plainly recognizable cases, but also in the doubtful ones, rather than keep such patients under observation until the disease has become manifest beyond question, and, perhaps, developed to a stage where it is beyond surgical reach.

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18. Another patient (No. 4) was well and free from recurrence for nearly seven years, when she died of endocarditis (coroner's report).

19. See under special observations.

Emphysema.—Potter recommends terebene in chronic emphysema. Wood states that the grindelia is of great service when there is accompanying cough. Brunton gives a single large dose of chloral in the sudden, acute form; small doses for long-continued dyspnea. For asthmatic cases Shoemaker prescribes tinct. euphorb. piluli 1 part, fld. ext. quebracho 7 parts, and gives one-half to two teaspoonfuls in water every three or four hours.—*Denver Med. Times.*

TETANUS.

A PRELIMINARY REPORT OF A STATISTICAL STUDY.*

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The object of these studies has been to demonstrate the incidence of tetanus in the United States and to present a brief review of all collectable cases, with a view to establishing our knowledge of the disease as it occurs in this country, as well as to adduce measures of prophylaxis and treatment.

A study of the literature from 1850 to 1904, covering the reports of cases found in the "Index-Catalogue of the Library of the Surgeon-General" in Washington from 1850 to 1892, and the "Index Medicus" from 1892 to 1904, inclusive, or 949 cases, with a report of 252 original ones collected by us from direct correspondence with hundreds of observers all over the country, giving a total of 1,201 cases, affords convincing proof that every case of the disease is the result of the introduction of the tetanus bacillus through a lesion of the skin, however minute it may be, and that so-called idiopathic or "rheumatic" tetanus does not exist. From our statistics the fact stands clearly forward that the disease is endemic to all large centers of population; that in some localities in which it formerly prevailed with marked severity, notably in Long Island, it has decreased in prevalence; that occasionally there are small epidemics that prevail, which can be definitely traced in their origin, as for instance in hospitals following the use of infected catgut sutures. The same is true of vaccination tetanus and diphtheria tetanus following the use of tetanized vaccine or antitoxin, and tetanus neonatorum (e. g., where cases have developed in the service of the same midwife).

Table 1 indicates many of the leading points concerning the cases collected by us from individual physicians throughout the United States and in subsequent tables aspects will be elaborated separately in detail.

DISTRIBUTION AND PREVALENCE IN THE UNITED STATES.

The sections of this country in which tetanus is most frequent are northern New York, along the Hudson Valley, Brooklyn and the surrounding districts of Long Island, southern Pennsylvania, Virginia, Georgia (at least about Savannah), southern Louisiana, Indiana, Illinois and southern California. Cases of tetanus were plentiful after the battle of Gettysburg and also after the battle of the Wilderness.

In 1,099 cases out of the total of 1,201 collected by us, the location by state was given (Table 2) with Pennsylvania leading, showing 224 cases, while New York stood next, with 190 cases. These figures, however, are misleading as regards the prevalence of the disease owing to the incompleteness of the returns from many quarters, and we refer the reader to the tabulated reports, copied from the census statistics of the United States, accompanying this study. Thus, while we noted but 17 cases from Louisiana, the census report for 1870 and 1890 shows a total of 806 cases, of which 642 were instances of tetanus neonatorum, in this one state alone.

A perusal of Table 3 can not help but impress every reader with the appalling mortality from tetanus of the newborn and herein, indeed, lies a great work in a concentrated endeavor to lessen the fearful ravages of the condition in the newborn.

It is interesting to note that the total number of cases for all the states mentioned in the table for 1870 was 1,627, and the total number of cases for 1900 was 2,259, indicating that while Fourth of July tetanus is vastly on the increase, in general the disease has been on the decrease as compared with the population.

There is a strip of land extending from the village of Oceanic New Jersey on the east, to the west of Red Bank on the west, the said strip being about one mile wide and five miles long, where tetanus is strongly endemic.[1] It is a well-known fact that on the eastern end of Long Island where formerly the disease was prevalent, it is now rare.[2]

The incidence of the disease is more or less influenced by the different seasons of the year, as may be seen from a glance at the subjoined table, which embraces 687 cases in which the seasonal occurrence was recorded.

An analysis of Table 4 shows the following numerical order: July, with 129 cases; October, with 75; September, with 68; June, 61; August, 59. Fourth of July celebration explains the great increase in July cases, but independently of this fact, the statement holds true that tetanus is more prevalent in the hotter as compared with the colder months of the year.

The age of the patient was given in 583 cases, as shown in Table 5.

It will be observed that the greatest number of cases tabulated with reference to the age developed as follows: Between 10 and 15 years there were 130 cases; from 5 to 10 years there were 99. From the 5th to the 15th years of life, therefore, 229 cases occurred, or 39.3 per cent. Between the ages of 15 and 25 there were 145 cases, or 24.9 per cent., while between those of 25 and 35, there were 86 cases, or 14.8 per cent. Beyond 50 years we found only 14 cases. In 981 of the cases the sex of the patient was noted, with the following result: Males, 778; females, 203, the former sex making up 79.3 per cent.

BACTERIOLOGY AND INFECTION ATRIA.

Nicolaier's bacillus is the causal factor in every case, although not always detected; it is easily stained. The germ occurs as a common saprophytic organism in most garden earths, in dust, manure, the intestines, and discharges of animals.

The recent literature as well as our own investigations show that the discovery of the tetanus bacillus in the wounds and also in the earth where infection was known to occur, is a more common event than formerly. Dr. Lefevre of Pittsburg, in a personal letter, referred to three cases in all of which the bacillus of Nicolaier was isolated from the pus found in the wounds. This observer mentions a fourth case, a child, which had fallen from a tree, sustaining a compound fracture of the arm with subsequent development of tetanus. Bacteriologic cultures of the earth from the spot on which the child fell showed the presence of the specific microorganism of this disease.

A non-pathogenic anaërobic organism which resembles the tetanus bacillus has been described, but the latter does not prove pathogenic when injected into the susceptible animals.[3] The germ rarely gains entrance into the alimentary tract by ingestion of food. The usual

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, Portland, Ore., July, 1905.

[1] Dr. J. W. Bennett, Long Branch, N. J., in personal letter.

[2] Osler, Text-book, Practice of Medicine.

[3] Journal of Boston Society of Medical Science, 1901, p. 506.

TABLE I.

Case No.	Name of Reporter.	Year.	Month.	Sex.	Race.	Age.	Infection Atrium.	Incubation Days.	Duration Days.	Mortality.	Serum Treatment.	Local and General Treatment.
1	Dr. J. M. Mason, Birmingham, Ala . . .	1903	Oct.	M	W	24	Nail in toe	100	17	0	. . . .	Local antisepsis carbolic acid hypo.
2	Dr. L. W. Johnstone, Tuskegee, Ala. . .	1904	April	M	W	5	Splinter in foot. . . .	6	3	1	Yes, amount not stated.	Chloral and bromids.
3	Dr. F. G. Du Bose, Selma, Ala	1898	May	M	C	45	Chronic leg ulcer. . .	. . . .	14	1	4 tubes P. D. & Co. in 48 hrs.	Chloral and bromids.
4	" " " " " "	1900	June	M	W	8	Foot wound.	4	3	1	. . . .	Chloral and bromids morphin hyoscin, antiseptics.
5	" " " " " "	1901	May	F	C	27	Unknown	. . . .	14	1	. . . .	Hyoscin, chloral and bromid morphin antiseptics.
6	" " " " " "	1902	June	M	C	. . . . .	Head wound	10	28	0	. . . .	Carbolic acid local ichthyol sedatives.
7	" " " " " "	1902	June	M	C	50	Foot wound	12	14	1	. . . .	Carbolic acid hypodermically.
8	Dr. J. L. Burns, Jonesboro, Ark.	1901	Sept.	F	W	10	Fracture forearm. . .	5	30 hrs.	1	. . . .	Amputation for septic embolism.
9	Dr. M. S. Dibrell. Van Buren, Ark. . .	1890	. . . .	M	W	10	Nail in foot.	7	7 days	1	. . . .	Excision, sedative carbolic locally.
10	Dr. A. A. Stafford, Alameda, Cal	1904	Jan.	M	W	14	Firecracker on hand. .	10	2	1	50 cc.	Carbolic locally, sedative.
11	Dr. W. M. Lewis, Los Angeles, Cal . . .	. . . .	. . . . .	F	C	40	Uterus.	8	4	1	. . . .	Douches sedative.
12	Dr. D. C. Barber, Los Angeles, Cal . .	See	notes	bel	ow	on 10	cases.					
13	Dr. C. Van Zualwenburg, Riverside, Cal.	1902	May	M	W	32	Abrased heel from shoe.	14	3	1	10 cc. every 3 hours,	Incision, chloral and bromids, carbolic locally.
14	Dr. W. A. Briggs, Sacramento Cal . . .	1903	. . . .	M	W	27	Face wound healed . .	. . . .	21	0	50 cc	20 mimims carbolic acid hypodermically daily.
15	" " " " " . . .	. . . . . .	. . . .	F	C	18	Tooth extraction. . .	. . . .	10	0	. . . .	Chloral and bromids.
16	Dr. Fred Baker, San Diego, Cal.	1886	. . . .	M	W	30	Axe wound of foot . .	5	4	1	. . . .	Toe amputated, antiseptic.
17	" " " " "	1892	. . . .	M	W	50	Herniotomy.	7	5	1	. . . .	Antiseptic.
18	" " " " "	1904	. . . .	M	W	60	Axe wound of foot . .	14	30	0	Amount not stated.	Antiseptic.
19	Dr. W. F. McNutt, Jr., San Francisco Cal.	1904	. . . .	M	W	17	Dental operation on tooth.	4	10	1	Used but not stated.	Chloral and bromids, morphin hyoscin.
20	Dr. W. F. McNutt, Jr., San Francisco Cal.	1904	. . . .	M	W	22	. . . .	5	. . . .	0	Used but not stated.	Chloral and bromids. morphin hyoscin.
21	Dr. W. F McNutt, Jr., San Francisco Cal.	1904	. . . .	M	W	34	. . . .	7	21	0	Used but not stated.	Chloral. and bromids, morphin hyoscin.
22	Dr. Geo. Goodfellow, San Francisco, Cal.	1892	. . . .	M	W	36	Hypodermic needle in arm.	7	14	1	. . . .	Sedative.
23	Dr. Dudley Tait, San Francisco, Cal . .	1900	. . . .	M	W	25	Hand	5	7	1	Intracerebral and intravenous.	Carbolic acid locally.
24	" " " " " " . .	1901	. . . .	M	W	35	Arm	12	19	0	Intravenous and intracerebral.	Chloral.
25	Dr J. Barbat, San Francisco, Cal	1905	Feb.	M	W	12	Sole of foot.	10	5	1	150 cc.	Bichlorid locally chloral and bromids.
26	Dr. J. M. Perkins } Dr. C. G. Hickey } Denver, Colo.	1903	July	M	W	14	Leg	10	2	1	Intracerebral amount not stated.	Incision iodoform dressing.
27	Dr. W. T. H. Baker } Dr. R. W. Corwin } Pueblo, Colo. . . .	1900	Jan.	M	C	20	. . . .	8	2	1	None	Chloral bromid chloroform.
28	Dr. W. T. H. Baker } Dr. R. W. Corwin } Pueblo, Colo . . .	1900	April	M	W	18	. . . .	10	4	1	Intracerebral 40 cc. . . .	Chloral bromid choloform.
29	Dr. W. T. H. Baker } Dr. R. W. Corwin } Pueblo, Colo. . . .	1902	June	M	W	36	. . . .	11	7	1	Subcutaneously 60 cc.	Chloral bromid chloroform.
30	Dr. J. F. Roe, Salida, Colo.	1902	April	F	W	21	Catgut in appendicectomy.	15	0	0	. . . .	Carbolic acid 5 per cent. hypodermic.
31	Dr. N. E. Wordin, Bridgeport, Conn. . .	.	. . .	F	W	48	. . . .	. . . .	. . . .	1	. . . .	Trephined curare.
32	" " " " " . . .	. . .	. . .	M	W	28	. . . .	. . . .	. . . .	0	. . . .	Trephined.
33	Dr. F. Burnell, South Norwalk, Conn. .	1903	July	M	W	17	Toy pistol wound. . .	8	6	1	. . . .	Carbolic locally, chloral and bromids.
34	" " " " " " . .	1903	July	M	W	19	Toy pistol wound . .	10	21	0	. . . .	Carbolic locally, chloral and bromids.
35	Dr. L. I. Pons. Roxbury, Conn.	1904	. . . .	F	W	16	Abscess from splinter.	6	21	1	. . . .	Chloral and bromids, passion flowers.
36	Dr. R. B. Hopkins, Milton, Del	. . . . . .	. . . .	M	W	12	Toe crushed by horse.	7	5	1	. . . .	Turpentine bichlorid.
37	" " " " "	. . . . . .	. . . .	M	W	30	Machine hand crushed.	7	7	1	. . . .	Peroxid.
38	" " " " "	. . . . . .	. . . .	M	W	70	Finger tip crushed by wagon.	9	9	1	Amount not stated.	Antiseptic.
39	Dr. W. F. Haines, Seaford, Del	1895	. . . .	M	C	28	Hand injury	7	5	1	. . . .	Amputation.
40	Dr. H. C. Lawton, Norwich, Conn. . . .	1905	March	M	W	5	Puncture of great toe.	12	31	0	10 cc. every 4 hours.	Chloral and bromids, antiseptic.
41	Dr. T. L. Jefferson, W. Palm Beach, Fla.	1903	Sept.	M	C	37	Nail in foot	7	1	1	10 cc.	Carbolic acid locally, chloral and bromids.
42	Dr. W. W. Stewart, Columbus, Ga. . . .	. . . . . .	July	M	W	16	Firecracker on hand. .	2	12	0	Daily injection amount not stated.	Chloral and bromids and morphin.
43	" " " " "	. .	. . . .	F	W	28	Injury to scar of kidney operation.	1	4	1	Daily injection amount not stated.	Chloral and bromids and morphin.
44	Dr. W. D. Travis, Covington, Ga.	. . . .	. . . .	M	C	40	Nail wound of foot. .	8	6	1	. . . .	Antiseptic chloral and bromids.

TABLE I—(Continued.)

Case No.	Name of Reporter.	Year.	Month.	Sex.	Race.	Age.	Infection Atrium.	Incubation-Days.	Duration —Days.	Mortality.	Serum Treatment.	Local and General Treatment.
45	W. D. Travis, Covington, Ga	..	...	M	C	17	Nail wound of foot..	9	10	1	....	Antiseptic chloral and bromids.
46	J. G. Jarrell, Savannah, Ga	1904	Jan.	M	W	25	Gunshot wound thigh.	18	7	0	....	Antiseptic chloral and bromids.
47	J. A. Crowthers, Savannah, Ga	..	...	..	..	...	....	...	....	1	Intracerebral injection.	
48	Dr. M. F. Dunn Dr. J. G. Jarrell } Savannah, Ga	1894	..	M	W	30	Comp. dislocation of wrist.	7	10	1	....	Antiseptic chloral and bromids.
49	Dr. J. G. Jarrell, Savannah, Ga	1896	...	M	C	19	Lath nail in foot...	12	10	1	....	Antiseptic chloral and bromids.
50	" " " " " "	1893	...	M	C	20	Nail in great toe...	10	7	1	....	Antiseptic chloral and bromids.
51	Dr. E. H. Griswold, Peru, Ind	1903	June	M	Ind	5	Nail in foot.....	5	5	1	....	Carbolic acid hypo.
52	" " " " " "	1903	June	M	W	12	Car injury to foot...	7	10	1	....	Carbolic acid hypo.
53	" " " " " "	1904	June	M	W	30	Pistol shot in hand.	10	6	1	....	Carbolic acid hypo.
54	Dr. Etta Charles, Summitville, Ind	1905	May	F	W	......	Wound on leg.....	7	4	1	20 cc. every 4 to six hours.	Chloral and bromids.
55	Dr. C. M. Eisenbeiss, Elkhart, Ind.	1902	Nov.	M	W	20	Index finger......	21	30	0	Large amt. but not stated.	Antiseptic.
56	Dr. W. E. Scott, Adel, Iowa	..	...	M	W	13	Foot........	21	28	0	....	Chloral and bromids.
57	Dr. M. J. Kenepick, Algona, Iowa.	1895	...	M	W	7	Comp. fract. ulna and radius in runaway.	....	5	1	....	Chloral and Bromids.
58	Dr. H. G. Ristin, Ft. Dodge, Iowa.	1900	Feb.	M	W	35	Wound of thumb joint.	19	12	0	....	10% carb. solutien by mouth in lrg. doses.
59	Dr. C. H. Churchill, Ft. Dodge, Iowa.	1901	Oct.	M	W	45	Finger wound......	7	5	1	....	Large doses of carb. acid hypo.
60	Dr. J. H. McGready, Independence, Ia.	1902	June	M	W	40	Gunshot wound, foot.	5	2	1	50 cc.......	Antiseptic.
61	Dr. W. G. Mullarky, Cedar Falls, Iowa.	1902	April	F	W	18	Nail in foot......	4	10	1	Large amount.	Excision. sedative.
62	Dr. A. L. Wright, Carroll, Iowa	..	...	M	W	12	Foot wound......	4	3	1	....	Chloral and bromids.
63	" " " " " "	..	...	M	W	50	Foot wound......	5	2	1	....	Chloral and bromids.
64	" " " " " "	..	...	F	W	18	Foot wound......	5	3	1	....	Chloral and bromids.
65	" " " " " "	..	...	F	W	35	Unknown.......	....	4	1	....	Chloral and bromids.
66	Dr. T. J. Maxwell, Keokuk, Iowa	..	...	M	W	9	Crushed foot.....	9	21	0	60 cc......	Heroin.
67	Dr. F. H. Boucher, Marshalltown, Ia.	1887	June	F	W	4	Knife wound......	2	3	1	....	Chloral and bromids.
68	" " " " " "	1887	June	F	W	10	Axe wound......	5	7	1	....	Chloral and bromids.
69	" " " " " "	1892	Oct.	M	W	35	Puncture from safety pin.	7	42	0	....	Chloral and bromids.
70	Dr. T. M. Throckmorton, Dr. A. L. Yocum, } Chariton, Ia.	1890	...	M	W	35	Scalp wound in runaway.	5	3	1	....	Chloral and bromids.
71	Dr. J. H. Sams. Clarion, Ia.	1894	July	M	W	5	Chicken bone in heel..	7	3	1	....	Chloral and bromids.
72	" " " " " "	1901	Mar.	F	W	8	Wound in finger in barn.	14	28	0	16 drams serum in all.	Chloral and Bromids,
73	Dr. S. L. Ensminger, Crawf'dsville, Ind.	1879	...	M	W	22	Hand........	7	6	1	....	} Poultices, antiseptics and calabar bean.
74	" " " " " "	1881	...	F	W	16	Leg.........	2	14	0	....	
75	" " " " " "	1898	...	F	W	30	Arm.........	4	4	1	....	
76	Dr. B. H. Breakstone, Chicago, Ill.	1901	...	M	W	9	Thigh wound.....	3	4	1	....	Chloral and bromids.
77	" " " " " "	1901	..	M	W	9	Scalp wound.....	5	8	1	Small amount.	Chloral and bromids.
78	" " " " " "	1901	..	M	W	8	Finger wound.....	4	5	1	....	Chloral and bromids.
79	" " " " " "	1900	...	M	W	11	Ingrown toenail....	4	12	1	....	Chloral and bromids.
80	" " " " " "	1902	...	M	W	42	Hand wound......	3	9	1	Small amount.	Chloral and bromids.
81	Dr. G. M. French, Danville, Ill	1995	Mar.	F	W	31	Blank cartridge wound.	5	30 hrs.	1	....	Chloral and bromids.
82	Dr. H. W. Morehouse, Danville, Ill	1904	Oct.	M	W	15	Gunshot wound of leg.	12	6	1	30 cc. ev. 3 hrs.	Bichl. locally.
83	Dr. C. Chenowett. Decatur, Ill	1905	Mar.	M	W	25	Nail in foot......	6	9	1	50 cc.......	Chloral and bromids.
84	Dr. I. A. Shirley, Winchester, Ky	1903	May	M	W	6	Splinter wound of foot.	10	....	0	Large amount.	Tonics chlo. and bromids.
85	Dr. I. A. Shirley, Dr. T. H. McKinley, } Winchester, Ky.	..	...	M	W	10	Knee joint......	30 hrs.	....	0	10 cc. serum early.	Chloral and bromids.
86	Dr. J. H. Letcher, Henderson, Ky	1902	Dec.	M	W	9	Arm comp. fract...	9	6	1	15 cc. late...	Amputation. chloral.
87	" " " " " "	1903	...	....	..	5 dys.	Navel.........	....	....	1	....	Sedative.
88	" " " " " "	1902	...	....	..	5 dys.	Navel.........	....	....	1	....	Sedative.
89	Dr. Arch Dixon, Henderson, Ky	1880	...	M	W	7	Hand.......	1	avergd. 14	1	....	} Amputation, antiseptics.
90	" " " " "	1883	...	M	W	18	Foot........	28	14	1	....	
91	" " " " "	1888	...	M	W	30	Foot........	5	14	1	....	
92	" " " " "	1898	...	M	W	24	Foot........	7	14	1	....	
93	" " " " "	1899	...	M	W	35	Wrist.......	9	14	1	....	
94	" " " " "	1901	..	F	C	46	Wrist.......	6	14	1	....	
95	Dr. G. R. Tolson, Covington, La.	..	Nov.	M	W	40	Foot......	4	6	1	....	
96	Dr. F. W. Parham, New Orleans, La	1905	Mar.	M	W	27	Forehead.......	6	5	1		
97	" " " " " " "	1901	...	M	W	11	Wound of leg and thigh.	9	...	0	10 cc......	
98	Dr. F. C. Dixon, Lewiston, Me.	1901	...	M	W	10	Nail in foot......	....	....	0	Freely used..	Chloral and bromids.
99	Dr. H. H. Brock, Portland, Me	1904	Nov.	F	W	20	After appendectomy..	7	9	1	33 cc. ev. 12 hrs.	Chloral and bromids.
100	Dr. W. V. Hanscom, Portland, Me.	1895	...	M	W	7	Compound fracture...	7	4	1	....	} Chloral and brom.,
101	" " " " " "	1898	...	M	W	9	Unknown......	....	4			
102	Dr. T. J. Daly, Lawrence Mass	1903	Aug.	M	W	18	Gunshot—hand....	25	42			
103	W. E. Webber, Lewiston, Me	1904	Mar.	F	W	32		7	4			
104	Dr. C. F. Davidson, Easton, Md.	1904	July	M	W	12		9	65 hrs.	0	[illegible]00 cc.....	
105	Dr. F. B. Smith, Frederick, Md	1893	...	M	W	50		14	42	0	....	Chloral and bromids.
106	" " " " " "	1894	...	M	W	10		4	10	1	....	Chloral and bromids.
107	" " " " " "	1899	...	M	W	25		7	21	1	....	Chloral and bromids.
108	" " " " " "	1904	...	M	W	30		10	21	0	Large doses...	Calabar bean.
109	Dr. B. W. Goldsborough, Cambridge, Md.	1898	...	F	W	10	Wound........	7	8	0	....	} Chloral and bromids, chloroform hyoscin.
110	" " " " " "	1898	...	F	C	8	....	8	10	1	....	
111	" " " " " "	1900	...	M	W	12	....	5	25	0	Large doses..	
112	" " " " " "	1901	...	M	C	17	....	3	7	1	Large doses..	
113	" " " " " "	1904	...	M	W	25	....	8	21	0	Large doses..	
114	Dr. J. C. Hickerson, Independence, Mo.	1903	July	M	W	14	Pistol wound, finger.	10	4	1	4 tubes PD&C.	
115	Dr. C. B. Clapp, Moberly, Mo	1893	July	M	W	33	Gunshot, leg.....	9	7	1	....	} C. and B. local heat *and blister to spine* and neck.
116	" " " " " "	1900	Nov.	M	W	19	Dog bite, leg......	10	10	1	Large doses..	
117	" " " " " "	1902	Sept.	M	W	17	Comp. fracture, arm.	12	14	1	....	
118	Dr. J. R. Williams, White Pigeon, Mich.	1886	...	M	W	15	....	7	5	1	....	} Blister spine, Chloral and bromids, gelsemium, calabar bean.
119	" " " " " " "	1890	...	F	W	15	....	10	12	0	....	
120	" " " " " " "	1903	...	M	W	30	....	7	6	1	Amt. not sta'd	
121	" " " " " " "	1901	...	M	W	30	....	8	8	0	....	
122	" " " " " " "	1905	May	M	W	28	....	5	4	1	Amt. not sta'd	
133	Dr. East, Constantine, Mich	1905	May	M	W	13	Nail in foot......	7	5	1	Amt. not sta'd	
124	Dr. Rush McNair. Kalamazoo. Mich	1899	Aug.	M	W	13	Splinter in toe....	21	30	0	60 cc......	Warm sponge baths.
125	Dr. C. Van Zualwenburg, " "	1897	May	M	W	28 da.	Navel.........	Unk'n.	14	0	....	Chloral and bromids.
126	" " " " "	1892	...	M	W	5 da.	....	57.	2	1	....	Chloral and bromids.
127	Dr. C. B. Nancrede, Ann Arbor, Mich.	1898	Oct.	M	C	16	Nail in foot.....	7	6	1	50 cc. Hypo..	Chloral and bromids.
128	" " " " " " "	1902	July	M	W	15	Firecracker in hand.	5	4	1	10 cc. Hypo...	Carbolic locally.

TABLE 1—(CONTINUED.)

Case No.	Name of Reporter.	Year.	Month.	Sex.	Race.	Age.	Infection Atrium.	Incubation —Days.	Duration —Days.	Mortality.	Serum Treatment.	Local and General Treatment.
129	Dr. C. B. Nancrede, Ann Arbor, Mich....	1902	Sept	M	W	17	Hand.... . ..	11	41	0	Large amounts hypo.	Amputation of forearm. Carbolic.
130	" " " " " " "	1903	July	M	W	16	Blk. cartridge—hand.	8	1	1	. . . .	Amputation, chlo. and bro. and carbolic.
131	" " " " " " "	1905	. . .	M	W	19	Shotgun w'nd, left leg	10	21	0	20 c.c. in spinal canal.	Amputation, chloral and bromids.
132	Dr. C. D. Clawson, Montour Falls, N.Y..	. .	. . .	M	W	25	Unknown.	. . . .	. . . .	1	. . . .	Chloral and bromids.
133	Dr. W. H. Park, New York City.	1903	. . .	M	W	10	Crushed finger. . . .	12	20	0	30 c.c. intravenous, lrge. doses hypo.	Chloral and bromids, finger amputated.
134	Dr. S. Blume. Riverhead, L. I., N. Y. . .	1905	April	F	W	8	Unknown	6	15 hrs.	1	. . . .	
135	Dr. J. H. Benjamin, Riverhead, L.I., N.Y.	1900	. . .	M	C	5	Foot wound.	. . . .	5	1	. . . .	C. & B. and opium
136	" " " " " " "	1880	. . .	M	W	30	Foot wound.	. . . .	6	1	. . . .	C. & B. and opium
137	Dr. H. D. Wey, Elmira, N. Y.	1894	. .	M	W	20	Comp. frac. forearm..	5	5	1	. . . .	C. & B, and chlorofrm.
138	Dr. M. Skidmore, E. Moriches, L. I.. . .	1900	June	M	W	50	Incised wound—nose	2	7	1	. . . .	Warm baths, anti-spasmodic.
139	" " " " " " .	1895	. . .	M	W	30	Horse kick in face . .	2	60	0	. . . .	2 qts. whisky every 24 hrs.; warm baths.
140	Dr. H. B. Besemer, Ithaca ,N. Y.	1896	. . .	F	W	18	Miscarriage.	. . . .	. . . .	1	. . . .	Curettement.
141	" " " " " "	1899	. . .	M	W	30	Operat'n, herniotomy.	5	6	1	. . . .	
142	" " " " " "	1902	. .	M	W	12	Splinter in foot. . . .	5	8	1	Lrg. amt. hypo.	
143	" " " " " "	1904	July	M	W	14	Pistol—hand.	6	2	1	2 doses in brain, 2 doses hypo.	
144	Dr. P. S. Mallon. Morris Plains, N. Y....	1905	Jan.	M	C	38	Foot	. . . .	10	1	. . . .	Opium.
145	Dr. Geo. Haslam, Fremont, Neb. . . .	1902	Mar.	M	W	21	Lacerated thigh . . .	7	2	1	. . . .	Carbolic hypo.
146	" " " " "	1904	Sept.	M	W	60	Gunshot in chest. . .	7	3	1	Amt not stated..	
147	" " " " "	1896	Dec.	M	W	19	Laceration index fing.	16	24	0	50 c c. hypo.. . .	Amputation.
148	Dr. W. T. Johnson, Pawnee City, Neb...	1903	Sept.	M	W	7	Knee	8	12	0	2000 units.. . . .	Chloral and bromids, antiseptics.
149	" " " " " " " ...	1904	Sept.	F	W	3	Foot	7	42	0	11,000 units.. . .	
150	" " " " " " " ...	1900	. . .	M	W	8	Foot.	8	1	1	. . . .	
151	Dr. H. T. Bahnson, Winston Salem. N. C.	. .	. . .	M	C	27	Cut finger.	14	. . . .	0	. . . .	Chloral and bromids.
152	" " " " " " "	.	. . .	M	C	23	Cut toe with hoe.. . .	60	2	1	. . . .	Chloral and bromids.
153	" " " " " " "	. .	. . .	M	W	15	Shotgun in hand.. . .	7	3	1	. . . .	Chloral and bromids.
154	" " " " " " "	. .	. . .	M	W	20	Shotgun in leg.	10	2	1	. . . .	Chloral and bromids.
155	" " " " " " "	. .	. . .	F	W	25	Orbit from cartridge.	10	7	0	. . . .	Free drainage of pus.
156	Dr. D. E. Stanton, High Point, N. C. . .	1893	. . .	M	W	6	Not stated	10	5	1	. . . .	
157	Dr. C. M. Strong, Charlotte, N.C . . .	. .	. . .	M	C	40	Comp.frac.tib.and fib.	10	4	1	Small amount...	
158	" " " " " "	. .	. . .	M	C	21	Kick on arm by horse.	21	5	1	. . . .	
159	" " " " " "	. .	. . .	M	C	12	Nail in foot.	14	3	1	. . . .	
160	Dr. J. H. Gleason, Manchester, N. H . .	1898	July	M	W	14	Firecracker in hand..	12	5	1	Amt. not stated hypo.	
	" " " " " " . .	1902	July	M	W	20	Firecracker in hand..	14	6	1	Amt. not stated, hypo.	
161	Dr. W. T. Smith, Hanover, N. H.	1903	Sept.	M	W	39	Gunshot—forearm . .	5	3½	1	60 c.c. hypo.. . .	Amputation.
162	" " " " " "	1904	July	M	W	27	Comp. frac. forearm..	6	7	1	400 c.c.	Amputation.
163	" " " " " "	1904	Oct.	M	W	12	Gunshot—thigh. . . .	7	2	1	120 c.c..	Drainage.
164	Dr. C. R. Gould, Tilton, N. H	1886	Feb.	M	W	65	Sole of foot.	5	2	1	. . . .	C. & B, opium, hot fomentation.
165	" " " " " "	. .	. . .	M	W	50	Comp. frac. at elbow.	7	4	1	. . . .	
166	" " " " " "	. .	. . .	F	W	14	Hay fork in foot . . .	2	3	1	. . . .	
167	Dr. F. A. Knich, Westfield, N. J.	1880	Dec.	M	W	40	Frosted feet.	. . . .	7	1	. . . .	
168	" " " " " "	1885	April	M	W	45	. . . .	. . . .	30	0	. . . .	
169	Dr. H. C	1903	July	F	W	11	Splinter in foot. . . .	8	4	1	280 c.c..	
170	Dr. B. N	1904	Jan.	F	W	8	Splinter in foot. . . .	5	4	1	20 c.c..	Chloral and bromids.
171	Dr. R. C	1895	. . .	M	W	16	Scalp wound . .	7	7	1	. . . .	
172	" " "	1898	. . .	F	W	60	Nasal mucous memb.	. . . .	3	1	. . . .	Plug. for hemorrhage.
173	" " " " " "	1899	. . .	M	W	12	Toy pistol in hand . .	4	7	1	. . . .	Amputation.
174	" " " " " "	1902	. . .	F	W	20	Finger.	6	12	0	. . . .	
175	" " " " " "		. . .	F	W	25	Unknown..	3	7	1	. . . .	
176	Dr. F. W. Flagge, Rockaway, N. J. . . .	1890	. . .	M	W	12	Rusty nail in foot . .	7	6	1	. . . .	Chloral and bromids.
177	Dr. S. T. Day, Port Norris, N. J	1893	. . .	M	W	13	Heel of foot.	10	20	0	. . . .	C. & B. gelsemium; carbolic locally.
178	D-. C. H. Wintsch, Newark, N. J	1904	. . .	M	W	17	Nail in foot	7	. . . .	0	. . . .	Per. oxid echinacea —antiseptics, caut.
179	" " " " " "	1904		M	W	32	Not given	10	42	0	. . . .	
180	Dr. J. E. Hu	1903	Oct.	M	W	77	Splinter in hand. . . .	6	10 hrs.	1	. . . .	Poultices.
181	Dr. G. W. H M.	1882		M	W	12	Wound of foot . .	. . . .	. . . .	1	. . . .	Chloral and bromids.
182	Dr. W. D. H	1904	May	M	W	6	Fork tine in foot . . .	7	4	1	4000 units.. . .	Chloral and bromids.
183	Dr. C. B. Re	1896	Sept.	M	W	. . .	Nail in foot	14	53	0	Some used on 16th day.	Chloral and brom.; hyoscin, cannabis indica.
184	" " " " " " " . . .	1903	July	M	W	15	Toy pistol, left hand..	12	30	0	. . . .	
185	Dr. R. W. Elliott, Cleveland, Ohio . . .	1900	. . .	M	W	13	Blk. cartridge—hand.	5	1	1	40 c.c. hypo.. . .	
186	Lakeside Hospital, Cleveland, Ohio . .	. .	. . .	M	W	11	Blk. cartridge—hand.	8	1	1	30 c.c. hypo.. . .	
187	" " " " . .	. .	. . .	M	W	12	Rake in foot	6	2	1	. . . .	
188	" " " " . .	1901	. . .	M	W	45	Crushed hand.	10	2	1	10 c.c. hypo . . .	Chloral and brom'ds.
189	" " " " . .	1902	. .	M	W	8	Blk. cartridge—hand.	8	7	1	180 c.c. hypo. . .	Amputation; C. & B.
190	" " " " .	1903	. .	M	W	25	Blk. cartridge—hand.	7	4	1	25 c.c. in brain. .	
191	" " " " . .	1903	. . .	F	W	18	Blk. cartridge—hand.	7	1	1	60 c.c. hypo. . .	
192	" " " " . .	1903	. . .	M	W	8	Blk. cartridge—hand.	7	2	1	80 c.c. hypo. . .	
193	" " " " . .	1903	. . .	M	W	8	Blk.cartidge, scrotum	6	2	1	10 c.c. hypo. . .	
194	" " " " . .	1903	. . .	M	W	13	Blk. cartridge—hand.	7	4	1	160 c c.	
195	" " " " . .	1904	. . .	M	W	34	Small wound—hand..	20	15	0	400 c.c. in spinal canal in 10 dys.	
196	" " " " . .	. .	. .	M	W	9	Barefoot, no wound..	. . . .	6	1	180 c.c. in spinal canal.	
197	" " " " . .	. .	. . .	M	W	14	Nail in foot.	8	2	1	180 c.c. in spinal canal.	Chloral and bromids.
198	Dr. F. H. Bloomhardt, Altoona, Pa . .	1903	. . .	M	W	38	After hemorrhoids operation.	40	17	0	. . . .	Carb. acid hypo.
199	" " " " " "	1903	June	M	W	13	Splinter in finger. . .	7	5	1	. . . .	
200	" " " " " " . . .	1904	July	M	W	40	Nail in foot.	5	20	1	. . . .	
201	" " " " " " . . .	1904	Dec.	M	W	34	Index finger of hand.	9	90	0	Large doses. . .	
202	Dr. J. M. Beck, Alexandria, Pa	1903	July	F	W	17	Toy pistol in finger. .	. . . .	. . . .	0	. . . .	C. & B., calabar bean.
203	Dr. W. J. Hertz, Allentown, Pa	1902	July	M	W	12	Sole of foot	6	1	1	90 c.c..	
204	Dr. C. L. Bradford, Austin, Pa	1905	Feb.	M	W	35	Lacerated arm . . .	8	3	1	40 c.c.	Chloral and bromids.
205	" " " " " "	1899	Aug.	M	W	70	Razor wound of toe..	8	3	1	40 c.c..	C. & B.; carb. and iodin locally.
203	Dr. J. A. Lynch, Cresson, Pa.	1898	April	M	W	8	Nail in sole of foot..	7	5	1	. . . .	
207	Dr. B. B. Levengood, Bellwood, Pa.. . .	1904	July	M	W	13	Cartridge w'nd, thumb	10	6	1	. . . .	C. & B., carb. locally.
208	Dr. F. O. Bryant, Chester, Pa	1901	. . .	M	W	38	Gunshot wound.	42	14	0	Large amount..	C. & B., carb. locally.
209	" " " " " "	1900	. . .	M	W	12	Punctured wound . .	7	4	1	Large amount..	
210	" " " " " "	1902	. .	M		35	Punctured wound . .	6	7	0	Large amount..	
211	Dr. J. D. Keller, Hanover, Pa	1904	May	M	W	12	. . . .	?	5	1	Amt. not stated.	
215	Dr. W. Leiser, Lewisburg, Pa.	1899	. . .	M	W	8	Nail in foot	7	5	1	. . . .	Chloral and bromids.
216	" " " " "	1899	. . .	M	W	30	Gunshot wound, hand	6	14	0	. . . .	Chloral and brom.; hot applications, locally.
217	" " " " "	1899	. . .	M	W	32	Nail in foot.	8	15	0	40 c.c	
218	Dr. M. L Davis, Lancaster, Pa..	1905	Feb.	M	W	64	Thumb crushed . . .	6	5	1	40 c.c	Chloral and bromids

TABLE 1—(Continued.)

Case No.	Name of Reporter.	Year.	Month.	Sex.	Race.	Age.	Infection Atrium.	Incubation —Days.	Duration —Days.	Mortality.	Serum Treatment.	Local and General Treatment.
219	Dr. R. W. Hunter, McKeesport, Pa . . .	1901	July	M	W	11	Pistol wound, finger.	3	15	0	Heroic doses . .	Incision C. and B. Ol Tigli.
220	Dr. W. C. Baird, McKeesport, Pa. . . .	1900	July	M	W	20	Pistol wound, finger..	1	1	1	. . . .	
221	Dr. L. J. Hammond, Philadelphia, Pa..	1902	. . .	F	W	22	Caries of lower jaw..	21	8	1	Large doses, subcut. and in spinal canal.	C. and B. carbolic locally and subcutaneously, bloodletting and intravenous salt infusion.
222	" " " " " " ..	1903		M	W	21	Brushburn of nose....	15	21	0		
223	" " " " " " ..	1905	May	M	W	62	Dental caries	15	5	1		
224	Dr. J. M. Ellzy, Philadelphia, Pa. . . .	1905	April	M	W	28	Arm cut by saw. . . .	4	1	1	60 c.c. hypo. . .	Incision. C. and B.
225	Dr. H. A. Lowenburg, Philadelphia, Pa.	1905	April	F	W	27	Great toe.	5	4	1	20 c.c. hypo. . .	Chloral and bromids morphine.
226	Dr. G. H. Woods, Pine Grove Mills, Pa.	1901	. . .	M	W	7	Arm caught in wagon	4	4	1	. . . .	Chloral and bromids.
227	Dr. E. W. Meredith. Pittsburg, Pa . . .	1901	July	M	W	12	Toy pistol—hand.. . .	15	21	0	20 c.c. hypo.. . .	Amputation at elbow, C. and B.
228	Dr. E. W. Meredith, (Mercy Hospital), Pittsburg, Pa.	1901	. . .	M	W	9	Horse kick in face . .	2	2	1	30 c.c. hypo.. . .	Chloral and bromids.
229	Dr. E. W. Meredith, (Mercy Hospital,) Pittsburg, Pa.	1904	Feb.	M	W	19	Dynamite explosion, face and eye.	9	5	1	Intracerebral amt. not stat'd	Eye enucleated antistreptoccic serum also used.
230	Dr. E. W. Meredith, (Mercy Hospital), Pittsburg, Pa.	1902	Mar.	M	W	35	Crush o foot	5	2	1	Intracerebral amt. not stat'd	
231	Dr. E. W. Meredith, Pittsburg, Pa. . . .	1898	June	M	W	16	Comp. fracture, leg. .	7	5	1	Hypo amt. not stated.	Chloral and bromids.
232	Dr. J. S. Hammers, Pittsburg, Pa.. . . .	1901	Aug.	M	W	49	Laceration of forearm from wagon.	5	28	0	66 c.c. hypo . . .	12½ cc. of Murphy's fluid hypo.
233	Dr. H. F. Gross, York, Pa	1905	May	M	W	13	Foot wound.	5	36 hrs	1	. . . .	Chloral and bromids
234	J. W. Babcock, Columbia, S. C.	1897	Dec.	M	C	35	Foot wound.	4	2	1	. . . .	Chloral and bromids.
235	Dr. S. L. Jepson, Wheeling, W. Va.. . .	1869	. . .	M	W	47	Unknown.	5	1	1	. . . .	Chloral and bromids.
236	" " " " " " . . .	1872	. . .	M	C	13	Nail in foot.	2	2	1	. . . .	Chloral and bromids
237	" " " " " " . . .	1898	July	M	C	8	Toy Pistol—hand. . .	14	14	0	. . . .	Chloral and bromids
238	" " " " " " . . .	1898	July	M	C	7	Toy pistol—hand. . .	14	14	0	. . . .	Chloral and bromids.
239	Dr W. P. Carr, Washington, D. C. . . .	1903	. . .	M	W	12	Vaccination wound. .	10	56	0	Amt. not stated.	Chloral and bromids.
240	" " (Emergency Hos'tal) "	1902	. . .	M	W	24	Crushed foot..	. . . .	. . . .	0		
241	" " " " "	1903	. . .	M	C	40	Crushed foot	. . . .	3	1	Amt. not stated.	Amputation under spinal anesthesia.
242	" " " " "	1900	. . .	M	C	45	Unknown	. . . .	3	1	Amt. not stated.	
243	" " " " "	1903	. . .	M	C	45	Hand wound	. . . .	5	1	Amt. not stated.	
244	" " " " "	1905	. .	M	C	48	Hand wound	. . . .	7	1		
245	Dr. W. H. Ross, Brentwood, N. Y. . . .	1889	Jan.	M	W	40	Splinter, thumb nail.	3	6	1	. . . .	Chloral and bromids.
246	Dr. A. C. Morgan, Philadelphia, Pa. . .	1897	Oct.	M	W	41	Nail in foot.	6	2	1	. . . .	C. and B. morphin, cocain, temp. 106.2.
247	Dr. W. F. Craig, Philadelphia, Pa. . . .	1898	Jan.	M	W	32	Kicked by man on foot and leg.	15	6	1	60 cc. hypo . . .	Chloral and bromids.
248	Dr. A. H. Baker, Elmira, N. Y..	1903	July	M	W	11	Toy pistol—hand.. . .	10	16	0	3 bottles hypo P. D. & Co. serum.	Chloral and bromids.
249	Dr. C. W. V. Brown, Elmira, N. Y.. . . .	1891	. . .	M	W	7	Vaccination	7	6	1	. . . .	Chloral and bromids.
250	Dr. R.-H. Spangler, Philadelphia, Pa. .	1902	Nov.	M	W	28	Wound of finger . . .	. . . .	12	1	30 c.c..	Chloral and bromids, carbolic acid.
251	Pennsylvania Hospital, Philadelphia. .	1905	April	F	W	9	Nail in foot.	6	4	1	Amt. not stated.	
252	Dr. B. W. Taylor, Columbia, S. C.. . . .	1902	. . .	M	W	7	. . . .	8	21	0	40 c.c. hypo . . .	Excision C. and B.

portal of entrance is by open wounds of any part of the body, no part, on account of its peculiar tissue formation, however, showing any predilection, but the point of implantation depends entirely on the most common seats of injury in general. Our tables show the extremities to have been the most common sites of infection, notably the hands and feet, although the figures indicate the great susceptibility of all parts of the body to the poison. The infection atria were recorded in 863 cases, with the interesting results shown in Table 6.

Males are more susceptible than females, according to our statistics, and this coincides with the prevailing opinion among writers on the subject, but the discrepancy in the number of cases furnished by the two sexes may be accounted for in part at least by the fact that males are more exposed to the infection than females. The robust are more receptive than the weak, and the nervous than the lymphatic. It is well-known that persons residing in localities in which the disease prevails endemically evince excitation of the nervous functions and that these nervous symptoms are markedly prominent when laboring under fevers and other diseases.[4] A student who developed tetanus from a dissecting wound of the finger reported that he had had a previous attack from a splinter in a finger some years before.[5]

There is much evidence to show that tetanus is directly transmissible and may give rise to epidemics. Kleiner[6] reports a case of tetanus neonatorum in a twin which was immediately isolated from the mother and other child; at the end of four days the sick child was brought back to the mother, who insisted on having it; five days after this occurred the second child became ill of the disease. Another instance is recorded of a case in a boy, whose brother also developed tetanus in ten days.[7] An epidemic of tetanus neonatorum occurred in Baltimore, in which 12 cases occurred in the practice of one midwife, all within a few blocks of each other.

Table 2.—Distribution of Tetanus Cases by States.

Alabama	23	Missouri	77
Arkansas	3	Mississippi	6
Arizona	9	Nebraska	7
California	27	New Hampshire	7
Colorado	11	New Jersey	45
Connecticut	14	New Mexico	1
Delaware	4	New York	190
District of Columbia	14	North Carolina	15
Florida	2	Ohio	56
Georgia	17	Pennsylvania	224
Idaho	1	Rhode Island	15
Illinois	35	South Carolina	8
Indiana	25	South Dakota	1
Iowa	37	Texas	28
Kansas	3	Tennessee	16
Kentucky	23	Vermont	4
Louisiana	17	Virginia	21
Maine	9	West Virginia	4
Maryland	46	Wisconsin	4
Massachusets	30		
Michigan	25	Total	1,099
Minnesota	4		

INTERESTING CLINICAL FEATURES.

In our tabulated cases several interesting clinical features were noted.

In Case 36 the trismus was so great that the teeth were crushed down to their roots.

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[4] Carpenter, Transactions New Jersey Medical Society of 1874.

[5] Boston Medical and Surgical Journal of 1863.

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In Case 61 fracture of the spinous processes of the vertebræ resulted from severe convulsions.

In Case 56 of our series during convalescence there was marked desquamation of the skin and enlargement of the lymphatic glands; antitoxin had not been used in this case.

In Case 22, in a morphin fiend, no one puncture could be designated as the site of infection.

In Case 10 the patient had a temperature of 1 degree F. every day during the period of incubation. This occurrence suggests the importance of recording the temperature in suspicious cases to determine whether there is any connection between the slight febrile movement and tetanus.

TABLE III.

MORTALITY OF TETANUS IN CENSUS YEARS AS SHOWN BY U. S. VITAL STATISTICS.

	1870.		1880.		1890.		1900.	
	Tetanus Neonatorum.	Total Cases.	Tetanus Neonatorum.	Total Cases.	Tetanus Neonatorum.	Total Cases.	Tetanus Neonatorum.	Total Cases.
Alabama	28	52	86	108	79	96	23	84
Arizona	. .	. .	. .	. .	. .	. .	. .	3
Arkansas	4	8	16	25	7	15	1	11
California	7	19	.	11	9	29	7	36
Colorado	1	1	1	2	2	6	.	8
Connecticut	1	9	3	20	13	18	9	25
Dakota	. .	. .		1	. .	.	. .	.
Delaware	. .	3	. .	3	1	7	. .	2
District of Columbia	2	6	9	10	52	58	9	12
Florida	4	11	26	35	27	33	26	100
Georgia	16	27	38	60	42	62	19	65
Idaho	. .	1	.		. .	. .	. .	. .
Illinois	5	26	24	63	63	100	36	126
Indiana	4	13	17	40	10	34	11	67
*Iowa	3	8	3	13	10	15	. .	38
Kansas	2	2	3	9	4	9	3	26
Kentucky	14	36	21	51	49	64	11	44
Louisiana	374	507	149	178	268	299	106	291
Maine	. .	2	.	2	. .	6	. .	9
Maryland	14	31	15	24	36	46	16	64
Massachusetts	2	18	7	17	6	9	3	31
Michigan	1	6	3	8	13	31	7	33
Minnesota	1	3	8	12	7	13	2	38
Mississippi	34	48	47	61	19	29	2	22
Montana	. .	. .	. .	. .	. .	. .	. .	1
*Indian Territory		. .	. .		. .	. .	. .	3
Missouri	88	166	33	59	180	200	57	100
Nebraska	1	1	. .	4	. .	6	3	16
Nevada	. .	. .	. .	2	. .	. .	. .	. .
New Hampshire	.	1	.	8	.	1	. .	3
New Jersey	6	19	16	35	68	80	38	94
New Mexico	.	1	. .	3	. .	2	.	. .
New York	58	112	14	50	99	146	57	204
North Carolina	7	13	39	54	12	18	8	46
North Dakota	. .	.	. .	. .	. .	2	1	2
Ohio	7	40	10	43	45	77	10	86
Oklahoma	. .	. .	. .	. .	. .	. .	. .	. .
Oregon	. .	. .	. .	2	. .	1	. .	1
Pennsylvania	9	60	21	70	35	74	21	168
Rhode Island	. .	3	3	6	2	5	2	9
South Carolina	29	42	26	31	106	114	67	99
South Dakota	. .	. .	.	.	3	3	. .	2
Tennessee	25	46	52	84	35	58	6	47
Texas	183	212	212	256	126	157	11	136
Utah	. .	. .		.	. .	1	1	4
Vermont	1	3	1	3	. .	. .	. .	3
Virginia	43	65	43	61	47	65	15	66
Washington	. .	. .	. .	1	. .	. .	. .	1
West Virginia	. .	1	2	7	4	9	. .	5
Wisconsin	1	5	6	10	12	21	7	28
Wyoming	. .	. .	. .	. .	. .	. .	. .	. .
50 Largest Cities	. .	. .	762	995	. .	. .	. .	. .
Total	975	1627	1716	2537	1491	2019	595	2259

* The figures for 1900 are furnished by the Bureau of the Census, Division of Vital Statistics, Washington, and are incomplete for the non-registration states, which are Alabama, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indian Territory, Indiana, Iowa, Kansas Kentucky, Louisiana, Maryland, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin and Wyoming.

In another case the pulse, following an operation, remained above 100 without adequate explanation until tetanus supervened. Here may be mentioned that hyperpyrexia was noted in two cases of our series; this is supposed to be an ominous sign, but both instances ended in recovery.

Dr. D. C. Barber, Los Angeles, Cal., reports 10 cases to us as follows: 2 medical, 8 surgical; ages ranged from 2 to 50 years; 2 female, 8 male; all white; from 1890 to 1905; incubation period averaged 10 days; average duration 3 days; mortality 100 per cent; treatment consisted of opening wound and exposing it to the air; serum used freely in his later cases with no favorable results. Cocain introduced into the spinal canal relieved symptoms for hours in several cases, but without ultimate favorable effect.

In Case 24 Schleich's solution was used for the operation of intracranial injection with good results.

In Case 42, two days after injury, patient showed signs of irritability with unreasonable outbursts of anger, accompanied by jerky, *spasmodic movements with a tendency to* throw the head back, accompanied by nystagmus; radical operation on the hand was done at once and recovery followed with clearing up of the mental condition.

In Case 62 the patient was supposed to be insane from his remarkable distortions during the convulsions before the proper diagnosis was made.

In Case 74, recovery ensued after removal of a splinter that irritated the tibial nerve.

Dr. Chenoweth, Decatur, Ill., gives a partial record of 5 cases with 4 recoveries; no serum was used.

Dr. A. R. Edwards, Chicago, gives summary of his 8 cases as follows: average age 22 years; males; white; 7 from foot wounds, 1 from a horse kick in face; incubation not definite; average duration 3½ days; 5 recovered; 3 died, including the cephalic case; 5 to 7 bottles of serum were used in each case. The cephalic case had a very violent onset; it was associated with facial paralysis.

TABLE 4.—SEASONAL OCCURRENCE OF TETANUS.

January	35	August	59
February	36	September	68
March	41	October	75
April	42	November	47
May	57	December	37
June	61		
July	129	Total	687

TABLE 5.—TABLE OF AGES OF PATIENTS IN TETANUS CASES.

3 to 15 days	13	Over 50	14
1 to 5 years	24		
5 to 10 years	99	Total	583
10 to 15 years	130	Unclassified	618
15 to 20 years	70		
20 to 25 years	75	Total	1,201
25 to 30 years	44	SEX OF PATIENTS.	
30 to 35 years	42	Males	778
35 to 40 years	37	Females	203
40 to 45 years	22		
45 to 50 years	13	Total	981

Case 99 of our series was one of several which occurred in the Maine General Hospital in 1904, most of whom died; an investigation showed the source of the epidemic to be catgut ligatures which had been used. When a new supply of catgut was employed the epidemic abated.

Case 103 was one of 6 cases that followed the use of catgut. There is a coincidence between the epidemics of Portland, Me., and Lewistown, Me., and Dr. Weber is preparing a report of the cases.

Dr. O. C. Shickler, New Ulm, Minn., reports 14 cases without details, all of which proved fatal; serum was used in 2 of the cases without benefit.

Dr. P. W. Rowland, Oxford, Miss., reports 2 fatal cases minus details; no serum used.

Case 144 presented marked delusions.

Dr. H. T. Bahnson, Winston-Salem, N. C., reports that during the Civil War he, with other prisoners, was put into a shelter for horses; all of the wounded who were placed therein, who did not succumb directly to their wounds, developed tetanus, and all of them, 17 in number, died.

In Case 172, plugging of the nose was done for epistaxis; tetanus finally developed, and the patient died.

Dr. J. W. Ward, Trenton, N. J., reports one case in a man who had been bitten by a dog; the diagnosis of hydrophobia was maintained in this case for several days.

Case 201 presented the following interesting condition: On the eighth day after starting the antitoxin a marked erythema developed, producing great irritation of patient's skin; with

TABLE 1—(Continued.)

Case No.	Name of Reporter.	Year.	Month.	Sex.	Race.	Age.	Infection Atrium.	Incubation —Days.	Duration —Days.	Mortality.	Serum Treatment.	Local and General Treatment.
219	Dr. R. W. Hunter, McKeesport, Pa . . .	1904	July	M	W	11	Pistol wound, finger.	3	15	0	Heroic doses . .	Incision C. and B. Ol Tigli.
220	Dr. W. C. Baird, McKeesport, Pa. . . .	1900	July	M	W	20	Pistol wound, finger..	1	1	1	. . . .	
221	Dr. L. J. Hammond, Philadelphia, Pa	1902	.	F	W	22	Caries of lower jaw..	21	8	1	Large doses, subcut. and in spinal canal.	C. and B. carbolic locally and subcutaneously, bloodletting and intravenous salt infusion.
222	" " " " " " ..	1903		M	W	24	Brushburn of nose....	15	24	0		
223	" " " " " " .	1905	May	M	W	62	Dental caries	15	5	1		
224	Dr. J. M. Ellzy, Philadelphia, Pa. . . .	1905	April	M	W	28	Arm cut by saw. . . .	4	1	1	60 c.c. hypo. . .	Incision. C. and B.
225	Dr. H. A. Lowenburg, Philadelphia, Pa.	1905	April	F	W	27	Great toe.	5	4	1	20 c.c. hypo. . .	Chloral and bromids morphine.
226	Dr. G. H. Woods, Pine Grove Mills, Pa.	1901	. .	M	W	7	Arm caught in wagon	4	4	1	. . . .	Chloral and bromids.
227	Dr. E. W. Meredith. Pittsburg, Pa . . .	1904	July	M	W	12	Toy pistol—hand. . . .	15	21	0	20 c.c. hypo. . . .	Amputation at elbow, C. and B.
228	Dr. E. W. Meredith, (Mercy Hospital), Pittsburg, Pa.	1904	. . .	M	W	9	Horse kick in face . .	2	2	1	30 c.c. hypo. . . .	Chloral and bromids.
229	Dr. E. W. Meredith, (Mercy Hospital,) Pittsburg. Pa.	1904	Feb.	M	W	19	Dynamite explosion, face and eye.	9	5	1	Intracerebral amt. not stat'd	Eye enuclated antistreptoccic serum also used.
230	Dr. E. W. Meredith, (Mercy Hospital), Pittsburg, Pa.	1902	Mar.	M	W	35	Crush o foot	5	2	1	Intracerebral amt. not stat'd	
231	Dr. E. W. Meredith, Pittsburg, Pa. . . .	1898	June	M	W	16	Comp. fracture, leg. .	7	5	1	Hypo amt. not stated.	Chloral and bromids.
232	Dr. J. S. Hammers, Pittsburg, Pa.. . . .	1904	Aug.	M	W	49	Laceration of forearm from wagon.	5	28	0	66 c.c. hypo. . . .	12½ cc. of Murphy's fluid hypo.
233	Dr. H. F. Gross, York, Pa	1905	May	M	W	13	Foot wound.	5	36 hrs	1	. . . .	Chloral and bromids
234	J. W. Babcock, Columbia, S. C.	1897	Dec.	M	C	35	Foot wound.	4	2	1	. . . .	Chloral and bromids.
235	Dr. S. L. Jepson, Wheeling, W. Va . . .	1869	. . .	M	W	47	Unknown.	5	1	1	. . . .	Chloral and bromids.
236	" " " " " " . . .	1872	. .	M	C	13	Nail in foot.	2	2	1	. . . .	Chloral and bromids
237	" " " " " " . . .	1898	July	M	C	8	Toy Pistol—hand. . .	14	14	0	. . . .	Chloral and bromids
238	" " " " " " . . .	1898	July	M	C	7	Toy pistol—hand. . .	14	14	0	. . . .	Chloral and bromids.
239	Dr W. P. Carr, Washington, D. C. . . .	1903	. . .	M	W	12	Vaccination wound. .	10	56	0	Amt. not stated.	Chloral and bromids.
240	" " (Emergency Hos'tal) " . . .	1902	. . .	M	W	24	Crushed foot.	. . . .	. . . .	0		
241	" " " " " . . .	1903	. . .	M	C	40	Crushed foot	. . . .	3	1	Amt. not stated.	Amputation under spinal anesthesia.
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	Tetanus Neonatorum.	Total Cases	Tetanus Neonatorum.	Total Cases.	Tetanus Neonatorum.	Total Cases.	Tetanus Neonatorum.	Total Cases.
Alabama	28	52	86	108	79	96	23	84
Arizona	. .	. .	. .	. .	. .	. .	. .	3
Arkansas	4	8	16	25	7	15	1	11
California	7	19	.	11	9	29	7	36
Colorado	1	1	1	2	2	6	.	8
Connecticut	1	9	3	20	13	18	9	25
Dakota	. .	. .		1	. .	. .	. .	. .
Delaware	. .	3	. .	3	1	7	. .	2
District of Columbia	2	6	9	10	52	58	9	12
Florida	4	11	26	35	27	33	26	100
Georgia	16	27	38	60	42	62	19	65
Idaho	. .	1	.		. .	. .	. .	. .
Illinois	5	26	24	63	63	100	36	126
Indiana	4	13	17	40	10	34	11	67
*Iowa	3	8	3	13	10	15	. .	38
Kansas	2	2	3	9	4	9	3	26
Kentucky	14	36	21	51	49	64	11	44
Louisiana	374	507	149	178	268	299	106	291
Maine	. .	2	.	2	. .	6	. .	9
Maryland	14	31	15	24	36	46	16	64
Massachusetts	2	18	7	17	6	9	3	31
Michigan	1	6	3	8	13	31	7	33
Minnesota	1	3	8	12	7	13	2	38
Mississippi	34	48	47	61	19	29	2	22
Montana	. .	. .	. .	. .	. .	. .	. .	1
*Indian Territory	. .	. .	. .	. .	. .	. .	. .	3
Missouri	88	166	33	59	180	200	57	100
Nebraska	1	1	. .	4	. .	6	3	16
Nevada	. .	. .	. .	2	. .	. .	. .	. .
New Hampshire	.	1	. .	8	.	1	. .	3
New Jersey	6	19	16	35	68	80	38	94
New Mexico	.	1	. .	3	.	2	. .	. .
New York	58	112	14	50	99	146	57	204
North Carolina	7	13	39	54	12	18	8	46
North Dakota	. .	. .	. .	. .	. .	2	1	2
Ohio	7	40	10	43	45	77	10	86
Oklahoma	. .	. .	. .	. .	. .	. .	. .	. .
Oregon	. .	. .	. .	2	. .	1	. .	1
Pennsylvania	9	60	21	70	35	74	21	168
Rhode Island	.	3	3	6	2	5	2	9
South Carolina	29	42	26	31	106	114	67	99
South Dakota	. .	. .	. .	. .	3	3	. .	2
Tennessee	25	46	52	84	35	58	6	47
Texas	183	212	212	256	126	157	11	136
Utah	. .	. .	. .	. .	. .	1	1	4
Vermont	1	3	1	3	. .	. .	. .	3
Virginia	43	65	43	61	47	65	15	66
Washington	. .	. .	. .	1	. .	. .	. .	1
West Virginia	. .	1	2	7	4	9	. .	5
Wisconsin	1	5	6	10	12	21	7	28
Wyoming	. .	. .	. .	. .	. .	. .	. .	. .
50 Largest Cities	. .	. .	762	995	. .	. .	. .	. .
Total	975	1627	1716	2537	1491	2019	595	2259

* The figures for 1900 are furnished by the Bureau of the Census, Division of Vital Statistics, Washington, and are incomplete for the non-registration states, which are Alabama, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indian Territory, Indiana, Iowa, Kansas Kentucky, Louisiana, Maryland, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin and Wyoming.

In another case the pulse, following an operation, remained above 100 without adequate explanation until tetanus supervened. Here may be mentioned that hyperpyrexia was noted in two cases of our series; this is supposed to be an ominous sign, but both instances ended in recovery.

Dr. D. C. Barber, Los Angeles, Cal., reports 10 cases to us as follows: 2 medical, 8 surgical; ages ranged from 2 to 50 years; 2 female, 8 male; all white; from 1890 to 1905; incubation period averaged 10 days; average duration 3 days; mortality 100 per cent; treatment consisted of opening wound and exposing it to the air; serum used freely in his later cases with no favorable results. Cocain introduced into the spinal canal relieved symptoms for hours in several cases, but without ultimate favorable effect.

In Case 24 Schleich's solution was used for the operation of intracranial injection with good results.

In Case 42, two days after injury, patient showed signs of irritability with unreasonable outbursts of anger, accompanied by jerky, spasmodic movements with a tendency to throw the head back, accompanied by nystagmus; radical operation on the hand was done at once and recovery followed with clearing up of the mental condition.

In Case 62 the patient was supposed to be insane from his remarkable distortions during the convulsions before the proper diagnosis was made.

In Case 74, recovery ensued after removal of a splinter that irritated the tibial nerve.

Dr. Chenoweth, Decatur, Ill., gives a partial record of 5 cases with 4 recoveries; no serum was used.

Dr. A. R. Edwards, Chicago, gives summary of his 8 cases as follows: average age 22 years; males; white; 7 from foot wounds, 1 from a horse kick in face; incubation not definite; average duration 3½ days; 5 recovered; 3 died, including the cephalic case; 5 to 7 bottles of serum were used in each case. The cephalic case had a very violent onset; it was associated with facial paralysis.

TABLE 4.—SEASONAL OCCURRENCE OF TETANUS.

January	35	August	59
February	36	September	68
March	41	October	75
April	42	November	47
May	57	December	37
June	61		
July	129	Total	687

TABLE 5.—TABLE OF AGES OF PATIENTS IN TETANUS CASES.

3 to 15 days	13	Over 50	14
1 to 5 years	24		
5 to 10 years	99	Total	583
10 to 15 years	130	Unclassified	618
15 to 20 years	70		
20 to 25 years	75	Total	1,201
25 to 30 years	44	SEX OF PATIENTS.	
30 to 35 years	42	Males	778
35 to 40 years	37	Females	203
40 to 45 years	22		
45 to 50 years	13	Total	981

Case 99 of our series was one of several which occurred in the Maine General Hospital in 1904, most of whom died; an investigation showed the source of the epidemic to be catgut ligatures which had been used. When a new supply of catgut was employed the epidemic abated.

Case 103 was one of 6 cases that followed the use of catgut. There is a coincidence between the epidemics of Portland, Me., and Lewistown, Me., and Dr. Weber is preparing a report of the cases.

Dr. O. C. Shickler, New Ulm, Minn., reports 14 cases without details, all of which proved fatal; serum was used in 2 of the cases without benefit.

Dr. P. W. Rowland, Oxford, Miss., reports 2 fatal cases minus details; no serum used.

Case 144 presented marked delusions.

Dr. H. T. Bahnson, Winston-Salem, N. C., reports that during the Civil War he, with other prisoners, was put into a shelter for horses; all of the wounded who were placed therein, who did not succumb directly to their wounds, developed tetanus, and all of them, 17 in number, died.

In Case 172, plugging of the nose was done for epistaxis; tetanus finally developed; and the patient died.

Dr. J. W. Ward, Trenton, N. J., reports one case in a man who had been bitten by a dog; the diagnosis of hydrophobia was maintained in this case for several days.

Case 201 presented the following interesting condition: On the eighth day after starting the antitoxin a marked erythema developed, producing great irritation of patient's skin; with the onset of the rash the temperature went to 105 F., while delirium ensued with a well-marked typhoid state; in 2 days more the erythema changed to purpuric spots all over the body, completely obscuring the normal appearance of the skin; there were three successive groups of these purpuric spots in the next three weeks, the temperature meanwhile ranging from 103 to 105 F.; during this period, however, the tendency to convulsions ceased, but catarrhal nephritis now presented itself. In five weeks from the starting of the disease desquamation took place, the skin coming off in large scales; emaciation was extreme; at this time a slight enlargement of the right parotid gland developed and showed pus on aspiration; a week later a second swelling appeared on the lower jaw, which also yielded pus; this was later followed by suppuration of the sub-maxillary gland, and on this being drained the temperature came down to normal in two weeks. The patient eventually made a good recovery.

In Case 216 marked mental disturbance was noted for two months after recovery from convulsions, with perfect restoration at last.

TABLE 6.—TABLE OF INFECTION ATRIA.

	Total cases.	Death.	Recovery.
Cephalic	53	29	24
Abortion and miscarriage	21	16	5
Confinement	11	8	3
Neonatorum	22	15	7
Hand injury, Fourth of July	60	39	21
Hand fractures and dislocations	10	2	8
Hand crushed by machinery	29	19	10
Hand contused, lacerated or punctured	117	44	73
Hand, splinter in finger or hand	10	5	5
Arm, dislocation or fracture	19	16	3
Arm, contused, lacerated or incised	14	6	8
Arm, gunshot (not Fourth of July)	35	17	18
Foot injury, Fourth of July	9	5	4
Foot, contused, lacerated or incised	126	63	63
Foot, nail	106	54	52
Foot, splinter	36	13	23
Leg, fractures or dislocations	18	15	3
Leg, contused, lacerated or incised	32	15	17
Leg, gunshot (not Fourth of July)	17	8	9
Railroad accidents	6	1	5
Gunshot wounds of trunk	3	2	1
Burns of trunk	5	0	5
Burns of extremities	7	1	6
Bites and kicks	7	2	5
Leg ulcers (chronic)	3	2	1
Following operations. Enucleated eyeball	1	1	0
Following operations on rectum	6	4	2
Following operation. Leg amputation.	3	2	1
Following operations. Breast amputation	1	1	0
Following operations. Frost-bites amputation.	4	2	2
Following operations. Dividing finger tendons.	1	1	0
Following operations. Varicocele	1	1	0
Following operations. Herniotomy	2	2	0
Following operations. Appendectomy	2	1	1
Following operations. Laparotomy	7	6	1
Following operations. Perineorrhaphy	1	1	0
Following operations. Vaccination	33	24	9
Following hypodermics, morphin, quinin	4	4	0
Miscellaneous	21	10	11
Total	863	457	406

Upper extremity	296
Lower	341

In three additional cases marked desquamation similar to that of scarlet fever occurred, but serum had not been employed in these instances. In series of cases other than our own, urticaria and erythema after the use of antitoxin have been reported.

In three cases recorded the first symptom was pain referred to the diaphragm. In one instance 410 convulsions in 24 hours were counted by a competent nurse. Death took place on the second day and toward the close the convulsions were so frequent that an accurate count was impossible.

Case 239 was in a boy of 12, with vaccination sore, who played in a stable and washed the wound and dried it with dirty paper found there; recovery in 8 weeks, but stiffness remained 18 months.

Brown[8] has reported a moderate leucocytosis (14,000 per c.mm.) in one case which he observed. This symptom has not been mentioned by any of our correspondents and is not spoken of as a rule by authors of text-books. The leucocytosis is most probably due to the wounds that serve as infection atria. But the question naturally arises, may not the increase in the number of leucocytes observed be due in part at least to the tetanus infection? If the leucocytosis depends on the traumatic lesions that are premonitory to the tetanus alone, then its degree of severity must vary with the extent of the local inflammatory process.

Finally, most of the cases scrutinized by us presented the usual train of symptoms and all of them showed trismus; this symptom cleared up the diagnosis in several cases that were strongly supposed at the outset to be simple colds, grippe, muscular rheumatism, and the like. Our studies also indicate the high diagnostic importance of the constancy of the tonic contractions in tetanus, since in other conditions, which simulate this disease, as hysteria, uremia, and strychnin poisoning, the contractions are intermittent.

We have analyzed the incubation period of 858 recorded cases, which are here tabulated; this table also *shows the relation of incubation to the mortality rate:*

TABLE 7.—TABLE OF COMPARISON.

Incubation to mortality.	Cases.	Recovery.	Death.
One day or less	23	14	9
Two days	21	13	8
Three days	29	10	19
Four days	39	14	25
Five days	82	29	53
Six days	57	16	41
Seven days	133	33	100
Eight Days	74	25	49
Nine Days	42	15	27
Ten days	88	56	32
Eleven days	23	9	14
Twelve days	35	18	17
Thirteen days	12	8	4
Fourteen days	59	39	20
Fifteen days	19	12	7
Over fifteen days	122	72	50
Totals	858	383	475

According to Table 7, it will be observed that 194, or 22.3 per cent. showed an incubation period of 5 days or less, with a mortality of 58.8 per cent. in these cases; 394 developed in from 5 to 10 days with a mortality of 63 per cent.; 148 gave an incubation of from 10 to 15 days with a death-rate of 42 per cent., and 98 cases developed in from 15 to 25 days with a mortality of 40 per cent.

Estimating the incubation according to the day of that period we found that those of greatest frequency were the fifth, with 82 cases; seventh, with 133 cases; eighth, with 74 cases, and the tenth with 88 cases. The mortality for all the cases that occurred within 10 days was 76.5 per cent., but rapidly decreased after that period had elapsed. In general, these results are in keeping with the incubation period usually given and the death-rate also corroborates previous statistics.

The period of incubation in vaccination tetanus seems to be longer than the above figures indicate, and the mortality is also higher, according to Willson.[9] Thus, "in 45 cases the period of incubation was over 14 days; in 21 it was 20 and over; in 1, 28 days, and in 6, 25 days or over."

DURATION OF THE DISEASE.

The duration of tetanus was given in 870 cases and these were also studied with reference to the mortality-rate, as shown by Table 8.

It will be observed that the highest mortality occurred on the seventh day, or in 86 cases; the second, 71 cases; the third, fourth and fifth days are rather constant, with about 50 deaths. From the tenth day gradually, and the fifteenth rapidly, the mortality decreased. Again of cases lasting 5 days or less, there were 338, with a mortality of 275 or 81.4 per cent.; in those giving a duration from 5 to 10 days, or 231 cases, 144 deaths occurred, or 63 per cent., and those lasting from 10 to 15 days, 91 cases with 27 deaths, or 30 per cent. Acute tetanus or that which developed within 10 days gave a total of 568 cases and a mortality of 74 per cent. On the other hand, 211 cases lasted over 15 days, with only 18 deaths, or 8.5 per cent. mortality.

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[8] Journal Alumni Association, Coll. P. & S., Baltimore, Vol. iv. No. 3.

[9] "An Analysis of Fifty-two Cases of Tetanus Following Vaccinia: With Reference to the Source of Infection," read before the Philadelphia County Medical Society, April 23, 1903; The Journal A. M. A., May 3-10, 1902.

Table 8.—Table of Comparison.

Duration to Mortality.	Cases.	Recovery	Death.
Less than one day	7	1	6
One day	47	9	38
Two days	79	8	71
Three days	71	13	58
Four days	66	16	50
Five days	68	16	52
Six days	35	8	27
Seven days	86	30	56
Eight days	33	9	24
Nine days	25	9	16
Ten days	51	30	21
Ten to fifteen days	91	64	27
Fifteen to twenty days	46	41	5
Twenty days and over	165	152	13
Totals	870	406	464

TREATMENT.

The measures employed in the treatment of tetanus have been many and varied; they may be considered under two heads: (a) Local, and (b) General.

(*a*) *Local Measures.*—From our investigations there is uniform agreement that the immediate radical treatment of all wounds, in which there is ground for suspecting that tetanus may develop, is of the highest value. Many of the cases received the local carbolic acid treatment with more or less beneficial effect, and favorable results have been noticed by certain observers from the ice treatment of tetanus, which consists in immersing the part affected in ice with salt, or putting the patient in a very cold room. The most important method is to open freely the wounds in all directions under an anesthetic, as the chief danger is in the poison that occupies the bottom of any wound or part infected. Many of our correspondents have testified to the great efficiency of the dried serum used as a dusting powder after thorough incision and excision of the infected wounds.

(*b*) *General Measures.*—The serum treatment apart, certain other methods while not curative are decidedly beneficial and comforting to the patient. According to our responses, the chloral and bromid treatment has been used far oftener than any other. Calabar bean has numerous advocates and morphin has been much employed, but theoretically it should be used with caution and reserve on account of its inhibitory effect on the respiratory centers, as death in tetanus is usually by paralysis of respiration. Cocain used intraspinally gave temporary relief from the convulsions in one case but death finally occurred.

Antitoxin Treatment.—Much attention has been given to the serum treatment in recent times and quite as important as the immediate radical treatment of all wounds coupled with the local use of the dried serum, are prophylactic injections of antitoxin, preferably subcutaneously. As a means of prophylaxis, the serum has been fully tested both in America and abroad and there is uniform agreement that "antitoxin does protect" in every case. As a striking example of its efficacy, Scherck[10] gives the following report of results: "In 1903 there were 56 cases of Fourth of July injuries treated, with 16 deaths from tetanus resulting; in 1904, 37 accident cases were treated, every one of which was given prophylactic injections of serum, with the result that no cases of tetanus developed."

On the other hand, the present status of the serum question leaves no room for doubting that when given during a well-developed case of tetanus, antitoxin does not have any appreciable beneficial effect, neither the mortality being reduced nor recovery hastened thereby. Booth,[11] however, has quite recently reported three cases in which the serum was employed, all ending in recovery. Finally, as a prophylactic measure, it is practically perfect and should be used in every case of punctured, lacerated, or other wound in which there has been a suspicion of contact with tetanized matter.

DISCUSSION.

Dr. L. L. McArthur, Chicago, said that the diagnosis is made in the last stage usually after the spinal nerve elements have become seriously, if not fatally, invaded. If one waits until the sixth, seventh, eighth or ninth day to make a diagnosis, and then begins to note the cervical muscles stiffening, one is too late to use antitoxin successfully. During the past ten years, since the World's Fair in Chicago, it has been Dr. McArthur's practice to administer on the first, second and third day, prior even to the report of the bacteriologist, three successive inoculations with the antitetanic serum. In the cases in which this has been done tetanus has not developed. Although the cultivation of the tetanus organism is very difficult, the mere use of this serum can not do any harm and in a long series of cases in which tetanus might have been expected, Dr. McArthur said that the use of serum has prevented it.

Dr. G. W. McCaskey, Fort Wayne, Ind., said that this condition resolves itself into a matter of treatment, as all know the cause, and the treatment should begin with the inspection of the wound. Subjecting a patient who has had a suspicious injury to antitetanic serum is hardly rational, as there is a better treatment, the immediate cleansing of the wound. The opening of the wound is always necessary and no further treatment need be instituted; particularly is antitetanic treatment unnecessary. It is purely a matter of infection and the condition should be treated like any other infection. Dr. McCaskey said that some time ago he used transfusion after depleting the patient pretty well by removing considerable blood, and the treatment proved to be good. Reports regarding therapeutic measures are speculative. Some cases will get well under any sort of treatment.

Dr. Walsh, Erie, Pa., said that some one had declared it easy to prevent tetanus by closing the wound shortly after the accident. Dr. Walsh said that in an injury caused by a slight kick on the ankle he thoroughly cleansed the wound within an hour and then used pure carbolic acid. The wound healed within a week, but three weeks later the man developed tetanus and died.

Dr. R. A. McLean, San Francisco, said that it has been demonstrated that the tetanus toxin has its effect on the nerve cells of the spinal cord and that it reaches these cells only by way of the axis cylinder of such nerves. The toxin reaches the nerve itself immediately at the site of injury, and then reaches the motor nerves all over the body. The treatment resolves itself into getting the antitoxin in contact with the toxin, and it has very little effect until it is injected into a large vein, it being so quickly destroyed in the tissues. It appears to have been demonstrated that the proper thing to do is to expose the nerve trunk, puncture the medullary sheath with a fine needle, and inject directly into the nerve trunk, using sufficient antitoxin to swell the nerve up to three or four times its normal size; this should be repeated daily, and if necessary several times a day, as the effect is quickly destroyed. It acts as a block to the upward passage of the toxin along the nerve, but has no effect when used just under the skin. The local treatment should come last.

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[10] Therapeutic Gazette, Nov., 1904.

[11] Jour. Amer. Med. Assn., July 1, 1905, p. 42.

The toxin is being absorbed constantly from the wound, so that the nerve passages should be treated first and the wound afterward, as the antitoxin will be working in the meantime. In a bad case the antitoxin should be injected directly into the cord itself, to block the passage up the cord.

Dr. **Anders** said that the treatment consists in prophylactic injections of the serum and that the value of antitoxin is prophylactic rather than curative. Antitoxin does protect. It should be injected into the nerve trunk above the site of infection. Its value after the disease has developed is very doubtful, and in the majority of instances writers have reported negatively. Few claim recovery has occurred from the antitoxin injection. As the best treatment is prophylactic, it behooves us to endeavor to ascertain whether tetanus is likely to develop or not. In all wounds involving the deeper connective tissues prophylactic inoculations should be made. Dr. Anders repeated that in their paper mention was made of certain symptoms which are followed by attacks of tetanus, such as increased pulse rate, without any other assignable cause; peculiar nerve irritation, etc. These things should be very carefully noted and further investigation made to ascertain whether or not they have assumed diagnostic importance. That tetanus may be prevented but not cured seems to be the present opinion. As to other forms of treatment, the less said the better. The use locally of dried serum has been followed by almost uniformly good results, but surgeons are better acquainted with this matter than physicians.

SPLANCHNOPTOSIS FROM A SURGICAL STANDPOINT.*

JAMES E. MOORE, M.D.

MINNEAPOLIS.

Gynecology sprang into existence as an offshoot from medicine to meet the demands of suffering womankind for more successful treatment of a train of symptoms, presumably due to disturbed conditions of the pelvic organs. Gynecologists first learned that a certain number of these symptoms could be relieved by replacing misplaced pelvic organs and by supporting them through mechanical means, but they soon learned that this relief was only temporary, and that better and more permanent relief could be obtained by repairing the faulty natural supports by means of a surgical operation, which soon led to the abandonment of pessaries. They then learned that many patients referred to them by physicians, who had been cured of all abnormal pelvic conditions, still had a train of grave disabling symptoms unaccounted for. These unfortunate patients were referred back to the physician, who pronounced them hysteric or dyspeptic, and treated them accordingly and with unsatisfactory results; they were next turned over to the neurologists, who said that they were suffering from neurasthenia, which they defined as "a functional morbid condition of the nervous system, of which the underlying characteristics are weakness and excessive irritability."[1] Of the reflex influences believed to cause and keep up neurasthenia, disturbances of the stomach, intestines and liver were considered the most prominent. Their treatment of these cases was successful, so far as they relieved digestive disturbances only. Osler describes neurasthenia as a term invented by Beard to cover an ill-defined, motley group of symptoms which may be general or local, and speaks of it as a physical counterpart of insanity.

Surgeons have learned to cure many cases of chronic dyspepsia by removing gallstones and chronically inflamed appendices, and by curing gastric ulcers, and they are now encroaching on the domain of the neurologist by operating in some cases of neurasthenia. They are shortening up distended abdominal walls, fastening up prolapsed kidneys, livers, spleens, stomachs and intestines; they are, in short, treating splanchnoptosis by surgical means. Neurologists have founded their treatment on the theory that the splanchnoptosis found in these cases is secondary to the nervous condition, while the surgeon who is prone to believe that mechanical conditions can be relieved by mechanical means only is inclined to believe that the nervous condition is secondary to the ptosis.

The confusion and misapplication of terms used to designate ptosis of the abdominal viscera are so great that it is difficult, if not impossible, to give a correct résumé of the literature on this subject. The term splanchnoptosis, meaning as it does falling of viscera, should be used as a general term comprising gastroptosis, enteroptosis, nephroptosis, hepatoptosis and splenoptosis, but in literature it has frequently been applied to some one of these conditions, and, on the other hand, the terms enteroptosis and gastroptosis have frequently been used in a general sense.

Glenard,[2] in 1885, was the first to give a clear and distinct description of neurasthenia, and the term Glenard's disease is very commonly applied to this condition by French and English writers. He says that neurasthenia is a disease in which all organs are involved, and maintains that it never exists without digestive troubles, patent or concealed, and that methodical exploration will disclose the following four important signs: 1, Flaccidity of the abdominal walls with diminution of abdominal tension; 2, prolapse of the intestinal mass, enteroptosis, nephroptosis, hepatoptosis and splenoptosis; 3, enterostenosis; 4, gastroptosis and gastric atony. He says that enteroptosis can not exist without a host of disturbances, among which he mentions atresia of the gastrointestinal lumen at suspensory points, prolapse of the right flexure of the colon where it is poorly suspended, exclusion of the stomach from the rôle of supporting the transverse colon, and the vicious circle. He believes that the cycle of enteroptosis usually begins at the right flexure of the colon, because of its poor support and its location beneath the liver.

The causes of splanchnoptosis are not well understood. Many conflicting theories have been advanced, but no one of these will explain all cases. Steller[3] concludes that it is congenital, due to general congenital relaxation, particularly of ligaments. Tedeschi[4] reports a case of Glenard's disease in a male child 5 years old which was doubtless congenital. Ingalls[5] arrives at the conclusion "by exclusion," that trophic changes cause relaxation of ligaments and abdominal wall. Carion and Hallon[6] prove by experiment on the dog that section of both pneumogastrics cause complete atony and permanent dilatation of the stomach. Pawlow and Katschkowsky[7] show that cutting the vagi produces only temporary disturbance of gastric movements.

Keith,[8] in his Hunterian lectures on the "Nature and Anatomy of Enteroptosis," states that too much importance has been attached to peritoneal support of viscera. He believes that vitiated methods of respiration push the organs down and the weakened abdominal muscles can not get them back. He says that often where but one organ is supposed to be prolapsed, others will be found in this condition if sought for. He believes that ptosis of the liver and stomach are due to relaxation of the abdominal walls which maintain the visceral shelves on which they rest.

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Dana: Text-Book on "Nervous Diseases," 1892.

[2] Glenard: Semaine Med., Paris, 1886, vol. vi, page 211. Bull. et Mem. Soc. Med. de Hop. de Paris. 1886. vol. 3, p. 888, 499-509.

[3] Steller: Archivs f. Verdauungskrankh, vol. ii, p. 185, 1896.

[4] Tedeschi: Arte med. Napole, 1902. vol. iv, pages 930-934.

[5] Ingalls: Annals of Surgery, 1902, vol. xxxv, pages 319-330.

[6] Carion and Hallon: La Semaine Medicale, Paris, Aug. 31. 1895.

[7] Pawlow and Katschokowsky: The Work of Digestive Glands, English translation, London, 1902, p. 175.

[8] Keith: London Lancet, March 7-14, 1903.

Traumatism is mentioned as a probable cause, but the disease is more common in women than in men, and the reverse would be true if traumatism were a frequent cause. The wearing of corsets is mentioned by many as a cause, but the most popular palliative treatment is abdominal supports. We can understand that the wearing of corsets and heavy skirts without shoulder support can act by directly dragging down the organs, and what is probably more important, by constant pressure they weaken the abdominal walls. It is illogical, however, to lay too much stress on this point, because ptosis occurs very frequently in men.

Pregnancy is doubtless a potent causative factor in some cases, but it is common in women who have not borne children. Max Einhorn[9] says that visceral ptosis is most frequently caused by states of inanition, no matter of what origin, and that a high degree of long-continued subnutrition alone is sufficient to cause marked enteroptosis and cardioptosis.

The symptoms of splanchnoptosis vary according to which organ or organs are most affected, but in a general way they are those of neurasthenia. The patient is more or less an invalid, suffering from general ill health, and mental depression. She is comfortable in the recumbent position only. She has a sense of dragging and weight, and suffers from constant weariness. Her stomach burns and vomiting is a frequent symptom. She has pain, anorexia and the full complement of dyspeptic symptoms. She becomes anemic and suffers from obstinate constipation, alternating with diarrhea. Her stomach and bowels are constantly distended with gas, and she is troubled with eructations. She has pressure on the uterus and bladder. Her epigastrium is tender, and she suffers from occasional colics or gastric crises.

A patient suffering from this train of symptoms should never be pronounced dyspeptic, hysteric or neurasthenic, and be sent away with a prescription without having a most careful physical examination made.

The diagnosis of ptosis of the various abdominal organs is usually easily made by percussion and palpation, because they usually occur in thin persons, and the flabby abdominal wall, which is so prominent a feature of this condition, enables the examiner to pass his fingers well down around the various organs. Prolapsed kidneys and stomachs and the means for their detection are so familiar to all that it is only necessary to mention them. The flabby abdominal wall, prominent below and flat above, through which can be felt the prolapsed and distended transverse colon, render a diagnosis of enteroptosis comparatively easy.

Although the liver is the largest and heaviest organ involved in splanchnoptosis, it is the one which has attracted the least attention. Hepatoptosis is doubtless very much more frequently involved than we have heretofore believed, and when the liver does prolapse all the other organs must come with it because of their anatomic relations. Its margin can be readily detected below the costal margin and when normal in shape is easily recognized. Floating or misshapen lobes, which are quite common, may readily lead to mistaken diagnosis. The elongated right lobe may be mistaken for a kidney, distended gall bladder or a new growth. In several instances, when operating for gallstones in women, I have found a thin, sharp-edged right lobe extending well down toward the umbilicus, even when the organ was not prolapsed, which was due either to an abnormal shape or a rotation forward of the organ on its transverse axis. We are so accustomed to think of the liver as a right-sided organ that we are apt to forget that it extends well over to the left side. An enlarged or prolapsed left lobe has been frequently mistaken for a left floating kidney. Glenard called attention to the fact that the lower part of the umbilicus is often hidden in a fold of the skin, due to traction on the suspensory ligament by a prolapsed liver.

A prolapsed or floating spleen is easily detected by its shape and location.

Glenard said that splanchnoptosis is incurable, but he recommended medical treatment and the abdominal binder only. The abdominal binder still holds a prominent place in the treatment of this condition, just as the pessary did in gynecology, and it, like the pessary, is very liable to give way to surgery; not but that it is and always can be useful in some cases, but it is the tendency of our profession to go to extremes. Possibly it is necessary for us to go to extremes in this matter to ascertain just what can and what can not be accomplished by surgery. The fact that this work can be done almost without mortality gives us no license to operate indiscriminately, but it does entitle these sufferers to the help of surgery. It behooves us, however, to be ever on our guard lest we attribute undue importance to certain mechanical defects, because these defects often exist without causing symptoms. We must remember, too, that some well-marked cases of ptosis of various organs can be restored to their normal position by rest, abdominal support and proper feeding. Max Einhorn[10] reports a number of cases demonstrating this fact. He demonstrates that proper feeding, thus increasing the patients weight, is a most important factor. L. W. Atlee[11] reports a number of cases demonstrating that some patients can be entirely relieved by medical treatment even when they have suffered from crises and without the prolapsed organs having been restored to place.

When a patient comes to us with "this motley array of symptoms," we should not pick out some one offending organ and operate on it, but we should make a thorough diagnosis and do a complete operation. The relative frequency and importance of ptosis of the various organs depend entirely on the observer's viewpoint. When the time comes that the internist, the neurologist, the gynecologist, and the surgeon observe these cases from one broad viewpoint, we shall be in a position to accomplish the most good. The surgeon should not recommend operative treatment until intelligent medical treatment has been tried, for without this it is impossible for him to decide in a given case which is the more important, the neurasthenia or the splanchnoptosis, but when medical treatment has failed and mechanical defects obtain, it is his duty to operate regardless of causes. Even then he must not offer surgery as a panacea, because there is a possibility that the neurasthenia may continue after all mechanical defects have been repaired. We should not be discouraged because of the failure following halfway operations on single organs when several were involved. The more complete operations have shown very encouraging results, and until it has been demonstrated that complete operations fail to cure it is our duty to perform them, and halfway work should give place to thorough work.

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[9] Einhorn; New York Med. Journal, April 15, 1905.

[10] Einhorn: New York Med. Journal, April 5, 1905.

[11] Atlee: New York Med. Journal, April 5, 1905.

The surgery of splanchnoptosis must go through a process of evolution just as all other abdominal surgery has, but it is to be hoped that we can profit somewhat by past experiences. It is, perhaps, fortunate that most of the organs involved are vital, so they will not go through the same experiences that the long-suffering ovary has. The prolapsed kidney, because of its location outside the peritoneum and its easy detection, has given us our largest experience, and that experience is *far from flattering, but when we remember that it has* very commonly been operated on independent of other conditions which usually exist our failures are not to be wondered at.

Glenard[12] says that nephroptosis of the healthy kidney is found only in nervous dyspeptics with intestinal ptosis, and that the syndrome is digestive rather than nervous. He says that the painful gastric or abdominal crises usually attributed to the kidney are caused by the kidney only when it is diseased. They may occur when the kidney is healthy, and even when it is not movable, but they are then duodenal. He says that the left kidney is less frequently prolapsed, because it is bound to the spleen and the spleen to the diaphragm.

The various operations for nephropexy are so familiar to all that it is unnecessary to describe them. It should be remembered that operations on patients suffering from gastric crises due to a diseased, prolapsed kidney are not to be undertaken without most careful preparatory treatment, because they are liable to have suppression of urine after. Dietel's crisis, coming on, as it does, with severe abdominal pain, nausea, vomiting, collapse and sometimes very high temperature, may be mistaken for gallstone colic or other conditions with disastrous results.

A prolapsed or wandering spleen is not nearly so common as a prolapsed right kidney, but may accompany a left kidney in prolapse on account of their attachment. Its shape and intraperitoneal location are sufficient to enable the examiner to differentiate between it and the kidney. Splenectomy has been the usual treatment for splenoptosis, but this is an unwarranted operation if it can be securely anchored. Rydygier was the first to advocate splenopexy, but admitted that the operation was not certainly permanent. Bardenheuer performed a successful splenopexy by passing the spleen out through a slit in the peritoneum, anchoring it to the tenth rib and then closing the peritoneum.

As long as surgeons devote their whole attention to the shortening of suspensory ligaments for prolapsed abdominal organs they are sure to meet with a large percentage of failures, because these slender reduplications to the peritoneum were surely not intended by nature to bear the weight of these organs. The intra-abdominal condition has been aptly compared to hydrostatic pressure, with the liver, stomach and colon floating on top. The comparatively frail ligaments of the liver would not support that heavy organ very long were it not for the supporting air cushion below, but as long as this support from below is normal the ligaments are sufficient, just as the weight of the human body can be supported in water by a cord that would support only a small fraction of its weight in air. Schwerdt estimates that these ligaments support only about one-eighth of the weight of the organs.

Ever since the term neurasthenia has been used the train of dyspeptic symptoms usually referred to the stomach have borne a prominent part. It is a recognized fact that a prolapsed and dilated stomach is a very common condition in neurasthenic patients. Neurasthenia is believed to be sometimes due to absorption of toxic products from a dyspeptic stomach. It is still a moot point as to whether a prolapsed stomach or neurasthenia when found together is the primary condition, because each of these conditions may exist without the other, but this we do know that the cure of the prolapse will ofttimes cure the nervous condition, and this can be done only exceptionally without the aid of surgery.

Duret[13] of Lille, in 1896, was the first to operate for gastroptosis. He stitched the stomach to the abdominal wall.

Davis,[14] in 1897, stitched the lesser omentum to the peritoneum for gastroptosis, and supplemented this by shortening the mesentery for an accompanying enteroptosis.

Rovsing,[15] in 1899, reported three cases in which he stitched the stomach to the anterior abdominal wall with improvement. Nephropexy was also performed in these cases.

Bier,[16] in 1900, reported four successful cases in which he elevated the prolapsed stomach by plicating the gastrohepatic and gastrophrenic ligaments and fastening the pylorus to the abdominal wall.

Coffey,[17] in 1902, reported two cases in which he supported the stomach by sewing the greater omentum to the abdominal wall, and in 1904 he reported[18] additional cases. He attaches the omentum as it comes off from the greater curvature of the stomach to the abdominal wall an inch above the umbilicus. The stitches were of chromic gut and were placed about an inch from the stomach. He reports good results even when the stomach was dilated. In extreme cases of prolapse of the colon he recommends that the omentum be attached to the abdominal wall both above and below the colon.

Beyea,[19] in 1903, gave details of a new operation for gastroptosis, with a report of seven cases that he had had under observation for from seven months to three and one-half years after operation. In all of these patients the improvement had been most remarkable. Their dyspepsia and neurasthenia had been permanently cured. In a later article[20] he reported additional operations by himself and others, with good results. His operation is like Bier's, save that he does not attach the pylorus to the abdominal wall. He plicates the gastrohepatic and gastrophrenic ligaments by repeated transverse rows of chromic gut sutures.

Morris,[21] in 1902, contributed an article on the surgical treatment of ptosis. He recommended that sufficient peritoneum and transversalis fascia be removed to shorten up the relaxed abdominal wall, and that the recti be fastened together. He shortens the falciform and suspensory ligaments of the liver after scarifying them and irritating the opposing surfaces of the liver and diaphragm. In two cases he performed nephropexy at the same time. He attributes the ptosis to the relaxed abdominal wall, and believes his operation superior to Webster's, in which the recti are brought together extraperitoneally. He states that many of these patients have umbilical hernia, and attributes some of the symptoms to dragging on the vena cava. He hesitated to plicate the gastrohepatic omentum on account of the important anatomic structures contained in it.

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[12] Glenard: Bull. et Mem. Soc. Med. de Hop. de Paris, 1893, 3, s. x. 882.

[13] Duret: Rev. de Chirurg., 1896, p. 430.

[14] Davis: Western Med. Review, October, 1897, p. 291.

[15] Rovsing: Archiv. für Chirurg. vol lx, 1899, p. 812.

[16] Bier: Deutsche Zeitschrift für Chirurg., 1900, lvi, p. 374.

[17] Coffey: Philadelphia Med. Journal, Oct. 11, 1902.

[18] Coffey: Transac. Western Surg. and Gyn. Assn., 1904.

[19] Beyea: Philadelphia Med. Journal, Feb. 1903.

[20] Beyea: American Medicine, Oct. 8, 1904, p. 629.

[21] Morris: Medical News, June 28, 1902.

Lambotte,[22] in 1891, contributed a paper on the surgical treatment of enteroptosis, in which he reported four patients operated on successfully by attaching the splenic and hepatic flexures of the colon to the abdominal wall.

As a rule in gastroptosis, the pyloric end only is prolapsed. The fishhook stomach of Killing is due to nondescent of the duodenum and leads to obstruction, dilatation and atony of the organ. Gastroptosis may be accompanied by general dilatation or pyloric dilatation. When dilatation of the stomach exists without pyloric stenosis it is usually due to gastroptosis.

I am inclined to view this part of our subject from Morris' standpoint, because it is in those cases in which gastroptosis and enteroptosis are prominent features that the most relief can be afforded by abdominal bandages or support by adhesive plaster, as recommended by Rose.[23] Any operation in which a direct attachment of the stomach to the abdominal wall is made I believe to be bad surgery, because we have all been obliged to operate for the relief of gastric adhesions. The plication of the gastrohepatic and gastrosplenic omentum is theoretically good, but in my limited experience I have not been so fortunate as Beyea, because these frail tissues have failed to hold. In one case in which I thoroughly plicated the gastrocolic omentum for a prolapsed colon, I was obliged to reoperate in six weeks. In this case the transverse colon was constantly distended like a balloon and dropped to the very bottom of the pelvis. The patient was a confirmed invalid and suffered constant pain from gas in the colon. There was marked stenosis at the splenic flexure, which was held in almost its normal position. At my second operation I performed an anastomosis between the prolapsed colon and the sigmoid, with a most satisfactory result. The patient's gastroptosis and neurasthenia were cured. She gained twenty-five pounds in weight in a few weeks, and again assumed her duties as a farmer's wife.

The best operation for a dilated stomach, whether due primarily to ptosis or to pyloric stenosis is undoubtedly a gastroenterostomy, but when the dilatation is due to atony this operation is contraindicated.

Coffey's operation is open to serious objection theoretically, notwithstanding the author's favorable cases. The attachment of the omentum to the abdominal wall so closely resembles the epigastric omental hernias we have so often been obliged to operate for that I should fear it might produce the same symptoms.

Bilroth performed a partial hepatopexy in 1884, but Marchand performed the first complete operation in 1891.

In 1897 Ramsey[24] reported a case in which he performed fixation of the liver and both kidneys for Glenard's disease. The right and left kidneys were anchored at different times, but the symptoms were not relieved; he then anchored the prolapsed liver by shortening the round ligament with silk sutures and fastening it to the cartilage of the seventh rib. He rubbed the upper surface of the liver with gauze and then passed a double kangaroo-tendon suture through the liver two inches from its right border and fastened it to the parietes. The liver became firmly fixed, and the patient experienced complete relief.

In 1897 Terrier and Avery[25] contributed a valuable article on hepatoptosis, which was reviewed and added to by Binne[26] in 1898. They recommended abdominal support as palliative treatment, and, this failing, they recommend hepatopexy. They advised catgut or silk sutures through the substance of the liver and all layers of the abdominal wall. They conclude that the method of Depage is best. He operated on the relaxed abdominal wall at the same time he performed hepatopexy. They quote Lannelongue's results following complete hepatopexy. Of eleven cases, eight gave satisfactory results, two were uncertain and one died from peritonitis.

In 1902 Jonas[27] reported two cases in which he supported a floating liver successfully by attaching the gall bladder to the upper end of the wound after removing gallstones. Da Costa and Gibbons have also performed this operation.

Eliot,[28] in 1904, recommends that in cases of gastroptosis accompanied by hepatoptosis the liver be anchored firmly in place so that the underlying organs will be relieved of the superincumbent weight. He supports the liver by fastening the round ligament to the abdominal wall with chromic catgut stitches.

The anatomic peculiarities of the liver are such that surgeons have long been deterred from attacking it. Recent experiences, however, have taught us that our fears are groundless. In hepatoptosis the indications are to replace the organ and fix it there, and it has been demonstrated that hepatopexy is a safe and satisfactory operation. Coarse sutures of chromic catgut or kangaroo-tendon should be used, and it is better to use a goodly number of them so they will not cut through. The mattress suture is the best. A round, pointed, slightly curved needle should be passed through the liver about an inch and a half from its margin from below upward, then through a good bite of the soft parts underneath the costal cartilages, and then downward through the liver again so the knots can be tied below when the liver is held in place. All of the sutures should be passed before any are tied. The diaphragm has been perforated in this operation, but no harm has resulted. The slight hemorrhage following the introduction of the sutures stops when they are tied.

These are undesirable patients, because of their extremely stormy convalescence, but the immediate prognosis is good, and, while the sum total of our experience in the surgery of splanchnoptosis is too limited to enable us to draw definite conclusions as to end results, it is so far sufficiently encouraging to justify the belief that we may be able in future to restore to health and usefulness many who have heretofore been condemned to hopeless invalidism.

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[22] Lambotte: Presse Med., Belge., 1891, Nos. 24, 25, 26.

[23] Rose: New York Med. Journal, May, 1900.

[24] Ramsay: British Med. Journal, May 8, 1897.

[25] Terrier and Avery: Rev. de Chir., August and September, 1897.

[26] Binne: Review and Comments on Terrier and Averys' article, Annals of Surgery, January, 1898.

[27] Jonas: Journal A. M. A., March 29, 1902.

[28] Eliot: Med. News, Nov. 12, 1904, p. 913.

DISCUSSION.

Dr. R. C. Coffey, Portland, Ore., expressed the belief that in the future the surgeon will be able to take many of the neurologist's cases, and to improve some of the nervous wrecks that have been made by the removal of various organs. The important question is as to how much depends on the natural supports of these organs. The general opinion is that there is something in intra-abdominal pressure, but this is a matter of speculation, and one cannot tell much about it. The only possible support is the peritoneal ligament. The connective tissue gives elasticity through the peritoneum. The suspensory ligaments of the liver will hold from five to fifteen times the weight of this organ. Dr. Coffey showed diagrams of the procedures in various cases and described the results. In one the uterus was not displaced but the kidneys were dragged down and the operation was done to anchor both kidneys. There was plication of the broad ligament. Five sutures were passed through the liver and fastened to the abdominal wall. This was two and a half years ago. The patient had been an invalid for six months, but Dr. Coffey reported that she is now a useful member of society. Two months ago the liver was found still in position. Dr. Coffey has had a large number of these cases, and Dr. Clark of Philadelphia has reported a number.

Dr. A. Ernest Gallant, New York, said that all the symptoms of which patients with dilated stomachs complain can be relieved by posture, but if the patient is put on her feet all the symptoms will return in a short time. From an experience covering twelve years he is thoroughly convinced that when these organs are sutured up they do not stay up. The construction of the clothes of the average woman is such that she has to tie them on around her waist, and there is no surgery that will overcome this force. That strain at the waist if anything is to be accomplished with or without surgery. Dr. Gallant takes advantage of posture in restoring the organs to their normal relations, and advises the use of a special corset which will relieve the tension at the waist. There is ample evidence of the success of this method from the fact that the stomach will bulge at the epigastrium.

Dr. B. B. Davis, Omaha, Neb., said that he has done a number of operations of this kind and some of the patients have been relieved and some have not. He knows of no surgical condition that gives him more of a feeling of helplessness than relaxed abdominal muscles and all the organs lower than they should be. If all the conditions under which the patients are laboring could be removed surgery might be successful, but the kidneys are down, the liver is down, the intestines are down, and in addition there is a very weak abdominal wall. These patients have the appearance of a pear; the abdomen is shaped like a pear with the base down. He has found that in some of them when he can anchor the liver and anchor the stomach, by using the lesser omentum and then elevating the mesentery in cases of this kind, in which he did a very extensive operation, he has been pleased with the result. In one case particularly, after the operation the woman was able to do her own housework. This he considers a good result. In addition to anchoring the organs a foreshortening of the abdominal wall should be produced. One must endeavor also to produce a better tone of the muscles.

Dr. Moore recently found it necessary to look up the question of prolapse of the liver due to traumatism. It was in the case of a suit brought against a corporation. He found that there were no cases on record of the liver being torn from its moorings by injury. The experiments on pigs, of course, are of very little value, as human beings do not travel like pigs, but the experiments demonstrate how the adhesions take place.

DUTY OF PHYSICIAN TO PATIENTS WITH PERINEAL LACERATIONS.*

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During my short experience as a practitioner of medicine few things have impressed me more than the great number of perineal lacerations in women, and no impression has been more profound than that made by the untold suffering endured and the physical and nervous wrecks found as a direct result of perineal lacerations, or of some of the numerous pathologic conditions attendant on or resulting from these conditions. Schroeder has shown that in primiparæ the fourchette is torn through in 61 per cent. of all cases; while in 34 per cent. of primiparæ and 9 per cent. of multiparæ the perineum is lacerated to a greater or less degree. The causes of these lacerations are variable, and the percentage of injuries may be somewhat decreased by judicious care in the management of labor, but with all possible care there will still occur a large percentage of injuries. Since we can not always prevent these injuries and because the correct position of a normal uterus, vagina, rectum, bladder and urethra depends greatly on the integrity of the pelvic floor, we should exercise the greatest possible care to restore these parts when lacerated as nearly as possible to the normal condition. The point which I wish to emphasize is the great tendency on the part of physicians in general to neglect the repair of these injuries.

The proper time for the repair of a torn perineum is immediately after delivery. The simple fact of a perineal tear being slight is not sufficient excuse for allowing the damage to go unremedied. When a laceration extends beyond the fourchette, the physician who fails to recognize its existence and to insist on its repair is guilty of gross neglect of duty. The patient and her friends may at first object to this procedure, but, as a rule, all objections can be removed by a simple and brief explanation of the existing condition, the necessary steps to be taken in repair, and the serious results that follow its neglect. The operation is so simple, and the results obtained so uniformly successful, that even the novice in surgery need have no fear of the outcome. The only instruments needed in an ordinary case are a curved needle set on a handle and a few strands of silkworm gut. No anesthetic is necessary, as the parts are already numb from the severe stretching and the pressure to which they have been subjected. If the patient is in an exhausted condition from a prolonged labor, or if the light is poor, the operation may be delayed for a brief period and the primary operation still done any time within the first twenty-four hours. If there is still some contraindication for disturbing the patient, an intermediate operation may be done at the end of five or six days by the use of a 10 per cent. cocain solution. No patient should be allowed to go on until a secondary operation is necessary to remedy the injury, for it is in those cases calling for secondary measures that the ill effects of perineal lacerations are seen, not on the pelvic organs alone, but on the general constitution of the patient.

The first evil effects observed as a result of the removal of perineal support is prolapse of the vagina, which is sometimes followed by prolapse of the rectum, with its resulting constipation and the consequent constitutional derangement. Occasionally inflammation and ulceration of the rectal pouch may be seen as a result of fecal accumulations. Following a rectocele or occuring simultaneously with it there may also be a cystocele, with inability entirely to empty the bladder; the decomposition of the residual urine frequently resulting in a very troublesome cystitis.

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* Read before the Marion County Medical Society, 1905.

The most important result following this injury to the pelvic floor is prolapse of the uterus, which, through dragging on the ovaries and tubes, results in more debilitated and neurasthenic conditions among women than at first would be imagined by a casual observer. What physician has not had patients apply to him for treatment, who complained of that characteristic backache, that indescribable weakness of the legs and feeling of pelvic weight or "bearing down," and that extremely prostrating headache to such a degree that her life is rendered almost useless. On physical examination, the patient is found to present most, or perhaps all, the conditions previously enumerated. When we reflect for a moment that with the expenditure of 15 or 20 minutes' time and a very small amount of trouble on the part of the physician immediately after the completion of labor, the patient might have been spared all these ills and their consequences, and her life instead of being that of a semi-invalid might have been one of health and vigor, it is clearly evident that the profession has not laid enough stress on the importance of the repair of perineal injuries.

Since the trend of modern medicine and surgery seems to be directed more toward the prevention than the cure of human ills, it seems fitting that perineal injuries should receive due consideration as a prophylactic measure against the ills that are sure to follow their neglect.

Special Article

IMMUNITY.

CHAPTER XX.

TETANUS.

In 1884 Carle and Rattone demonstrated the infectiousness of tetanus by inoculating the pus from an infected wound into rabbits; 11 out of the 12 inoculated rabbits died of tetanus. In 1885 the bacillus was discovered by Nicolaier, and Kitasato cultivated it artificially in 1889.

Characteristics of the Micro-organism. The organism is rather long and slender (2 to 4 microns long, 0.3 to 0.5 microns broad), possesses many flagellæ and has a small amount of motility. It stains readily with the ordinary anilin dyes and by Gram's method. In young cultures isolated cells and threads predominate, but after a few days spore formation begins; eventually all the adult cells degenerate and the culture consists entirely of spores. The spores have a larger diameter than the bacillus, are situated at one end of the cell and give the latter the characteristic "drumstick" form. The organism is a strict anaërobe and is obtained in pure culture with some difficulty. Morphologically it is difficult to distinguish from the bacilli of malignant edema and symptomatic anthrax.

Habitat. Few organisms are distributed more widely and generously than the bacillus of tetanus. It is most abundant in street dirt and in tilled ground which has been fertilized with manure. Nicolaier found it in twelve out of eighteen samples of earth. It is less abundant in timber land. Such a distribution is easily accounted for, since the bacillus seems normally to be an inhabitant of the intestinal tract of the horse, cow and sheep, and is often found in that of man and other animals. It occurs on dirty clothing and readily gains access to dwellings with dust in which it may be blown and carried about. Tetanus has developed in gunshot wounds in which dirty clothing was carried into the tissue, and several instances of house tetanus have been noted, i. e., cases in which several individuals in the same dwelling have contracted the disease following injury. The organism has been found even in sea water. Certain localities appear to be heavily infected. In certain tropical districts a large percentage of the new born die of tetanus neonatorum, and puerperal tetanus has prevailed alarmingly in Bombay. It has been suggested that the custom of bleaching the linen on the ground may be responsible for the prevalence of the disease in these localities, but the general lack of surgical precautions is probably of greater importance. The disease has decreased in these localities under aseptic practices. Tetanus has resulted from the injection of impure gelatin for hemostatic purposes. The ability of the bacillus to proliferate outside the animal body has not been determined. Some observers hold that it exists as a vegetative organism only in the intestinal tract of animals, but the possibility of proliferation in soil is by no means excluded, particularly since it is so often found in association with organisms which are known to favor its growth. When incrusted in solid material and accompanied by suitable saprophytes it may readily find the anaërobic conditions which are demanded for germination of the spores.

Resistance. The spores are very resistant. In one instance they remained virulent for eleven years on a splinter of wood. They may be killed in six days by direct sunlight. In comparison with non-spore-forming organisms they are very resistant to antiseptics. Kitasato found that they were killed in five minutes by steam, in fifteen hours by 5 per cent. carbolic acid, in two hours by 5 per cent. carbolic acid to which 0.5 per cent. of hydrochloric acid was added, in three hours by 1/1000 corrosive sublimate and in thirty minutes by the same solution to which 0.5 per cent. hydrochloric acid had been added.

Pathogenesis. Tetanus is conspicuously a wound infection and that it develops so frequently from wounds which are contaminated with earth is readily understood from the distribution of the organisms as cited above. Considering, however, the great number of such wounds and the prevalence of the bacillus, the rarity of the disease is remarkable. In explanation of this fact investigations have shown that the organism is not a vigorous parasite, that it often demands special conditions for its development in the tissues. According to Vaillard and Rouget, the spores when washed free of toxin do not cause tetanus; they are taken up and destroyed by leucocytes. The bacillus, furthermore, is a strict anaërobe, demanding for its development a wound from which the air is largely excluded.

Adjuvant Conditions. It is well known clinically that penetrating wounds in which infected material is carried beneath the fasciæ, as the rusty nail wounds and those accompanied by deep lacerations such as wounds inflicted with blank cartridges, or those in which dirt and micro-organisms have been ground into the tissues, as in crushing injuries, are prone to be followed by tetanus.

Of equal importance is the presence of foreign matter and particularly of other micro-organisms. Relatively superficial wounds in which there is laceration of the tissue with consequent necrosis, as in wounds by toy pistols, even the paper-cap pistol, are well adapted for the development of tetanus if the germs were on the skin at the time of injury. Necrotic tissue favors the proliferation of the tetanus bacillus in two ways. In the first place it seals up the wound to a certain extent, and thus provides the requisite anaërobic condition; in the second place it would seem to prevent phagocytosis of the bacilli in some obscure way. It has been suggested that the strong, chemotactic relation which exists between necrotic material and leucocytes causes the latter to take up the dead tissue rather than the bacilli. That innocent foreign material may favor the development of tetanus in the presence of the microbes was shown by Vaillard and Rouget; tetanus would develop in the presence of an artificially produced hematoma or a subcutaneous fracture while in the absence of such predisposing factors the bacilli were taken up by phagocytes. It

Mixed Infections.

is probable that saprophytic organisms and the pus-producing cocci which are usually found in wounds contaminated with earth favor the development of tetanus. Some of them increase the virulence of the tetanus bacillus in culture media. Aërobic organisms may facilitate development of the bacilli by consuming local oxygen.

Our great harvest of tetanus following Fourth of July injuries is closely associated in the first place with the warm, dry season in which the bacilli are more readily disseminated with dust, and in the second place with the nature of the wound and mixed infections as described above.

Occasionally tetanus follows the simplest wounds, which may have healed entirely before symptoms develop. There is an advantage in keeping suspicious wounds exposed to the air. In "idiopathic tetanus" the seat of infection can not be determined. In the so-called "tetanus rheumaticus" which follows exposure to cold, the infection atrium is unknown; a latent infection which is stirred into activity by the reduction of resistance which often follows exposure may be present. Avirulent tetanus bacilli (?) were cultivated from the lungs of one such patient. Neither the bacillus nor the toxin penetrates the unbroken skin or mucous membrane. The toxin is digested by the gastric and pancreatic juices. Wounds of the mucous surfaces may constitute infection atria; tetanus has followed diphtheria and typhoid fever.

The pathogenic properties of the tetanus bacillus reside in its soluble toxins, of which two, tetanospasmin and tetanolysin, are known. The characteristic nervous phenomena of the infection depend on the action of the former, whereas the latter, a hemolytic toxin, is of minor importance. As in diphtheria, a systemic distribution of the bacilli is not necessary for the development of the disease, the toxin being produced by the organisms in the wound, whence it is carried to the nervous tissue by way of the lymphatics. Particularly in mixed infections tetanus bacilli may be carried to neighboring lymphatic glands and eventually reach the circulation; pure cultures have been obtained from the heart's blood in experimental work. The blood, on account of its content in oxygen, is thought to be unfavorable for the growth of the organism.

Period of Incubation.

The incubation period varies from two or three days to several weeks. In the statistics of Rose 20 per cent. of the cases showed symptoms in the first week, 45 per cent. in the second, and about 30 per cent. in the third or fourth weeks. The shorter the incubation period the more fatal the disease. In the statistics cited the mortality with short incubation was 91 per cent.; when the incubation period was moderate it was 81.3 per cent., and when prolonged, 52.9 per cent. The nearer the infection atrium is to the central nervous system the shorter is the incubation period; "head tetanus" develops quickly.

Tetanospasmin.

Tetanus toxin (tetanospasmin) has a very strong affinity for the nervous tissue of susceptible animals. This may be demonstrated in test-tube experiments in which the toxin is mixed with an emulsion of the nervous tissue; the nervous tissue neutralizes the toxin more or less completely, as determined by subsequent inoculations of the mixture (Wasserman's experiment). It is held by certain authorities that the toxin attacks only the nervous tissue in man; in some of the lower animals, however, various organs, especially the liver, have an affinity for the toxin.

The method by which tetanus toxin reaches the central nervous system has been the subject of much speculation and experimentation. Recent observations by Marie and Morax and by Ransom and Meyer show with a great degree of probability that it is absorbed by the end organs of the motor nerves and from there passes to the ganglionic cells through the axis cylinders. This absorption takes place very quickly; when the toxin is given intravenously it disappears from the blood in the course of minutes. It has been found in the nerves within an hour and a half after subcutaneous injection. Its further transmission centrally occupies more time and, indeed, the investigators mentioned explain the rather long incubation period of the disease on the basis of the time required for this transmission. The brief incubation period in "head tetanus," accordingly, would depend on the short distance the toxin is obliged to travel to reach the ganglionic cells.

Varieties of Tetanus.

Although the toxin appears not to be taken up by the sensory nerves, a painful form of the disease, tetanus dolorosa (Meyer), may be produced experimentally by injecting the toxin into the posterior roots of the spinal nerves. Roux caused "cerebral tetanus" by introducing the toxin into the cerebral tissue; the condition is characterized by absence of contractures. "Local tetanus," in which the muscles in the vicinity of infection or inoculation are involved in contractures, is the first symptom of tetanus in experiment animals; it rarely occurs in man except in head tetanus. The phenomenon depends on the fact that the toxin, being transmitted through the motor nerves, reaches first the ganglionic cells which correspond to the infected area.

Just before death the toxin has been demonstrated in the blood of man by injecting some of the serum into mice. Its excretion in the urine is questionable. Tetanus produces no characteristic anatomic changes although degenerative lesions in the ganglionic cells occur. Death usually occurs from asphyxia caused by contractions of the diaphragm, or muscles of the glottis, or from cardiac failure. In some instances the blood has been found more or less laked because of the action of the tetanolysin.

Natural Immunity in Man.

According to Metchnikoff, the only natural immunity which man possesses to tetanus is leucocytic and this may be sufficient to protect under favorable conditions. The observations of Vaillard and Rouget support this claim. Susceptibility depends not only on the presence of suitable receptors in the nervous tissue, but also on the degree of affinity which exists between these receptors and the toxin. In man and some animals this affinity is very great, whereas in fowls it is weak and an enormous amount of toxin is required to cause tetanus. A further proof of this weak affinity in non-susceptible animals rests in the fact that the toxin when injected into the blood remains unabsorbed for a long time, whereas in susceptible animals it disappears very quickly. As indicated in Chapter XVIII, the presence of suitable receptors in less vital organs may be a cause of natural resistance. Acquired immunity depends on the presence of antitoxin in the circulation.

Value of Antitoxin.

Tetanus antitoxin is a thorough prophylactic. This fact has been heralded so extensively in recent years that there can be little excuse for ignorance on the part of any physician. At the same time, the returns from the "Fourth" show that the principle is not yet deeply imbedded in the medical mind. It is quite certain that a large percentage of these fatalities could be prevented by two injections of antitetanic serum, one at the time of injury and a second from five to eight days later. An epidemic of puerperal tetanus in an obstetric ward in Prague was checked by prophylactic injections of the antitoxin. In a certain section of France 4,000 horses, with injuries commonly followed by tetanus, received antitoxin and none developed the disease.

No degree of efficacy on the part of the antitoxin, however, justifies disregard of the surgical care which the wound demands. From the facts cited it is clear that thorough and frequent disinfection of the wound, free drainage, the removal of *all foreign and necrotic material, and the access of air* are measures of eminent importance. Punctured wounds should be opened up. Antitoxin, preferably as a powder, may be used in the wound, and the serum infiltrated into the adjacent tissue.

The principles which apparently underly the ill success of the antitoxin as a curative agent were treated of in Chapter XVIII. Its administration as early as possible after symptoms have appeared is demanded. After symptoms have existed more than thirty hours Behring maintains that there is no hope of cure by the subcutaneous route. Inasmuch as forty hours or more are required for complete absorption from the subcutaneous tissue, intravascular injection of at least the first dose would seem to be indicated. Yet by neither of these methods is the most essential end accomplished, for the *antitoxin* does not reach the nerves nor can it be recognized in the cerebrospinal fluid in conspicuous quantities. The most that such injections accomplish is the neutralization of the circulating toxin, that which is not yet on its way to the central nervous system through the motor nerves. It is, of course, important to neutralize the circulating toxin and it must be done quickly, for in the course of a few hours the fatal quantity of toxin may have been absorbed; "a dose of antitoxin which would save in the morning may be without effect in the evening."

Method of Using the Antitoxin.

At the same time it is of greater immediate importance to neutralize that which has been already taken up by the nervous tissue, and if possible to tear away some of the toxin already bound by the ganglionic cells. To accomplish this object, or to attempt it, special procedures are demanded. We may then consider the antitoxic treatment as follows:

First: The neutralization of the toxin which has already been absorbed by the peripheral nerves and spinal cord at a point as near the vital centers as possible. This involves surgical exposure of the large nerves of the part as near the trunk as possible and their infiltration with antitoxin (Ransom and Meyer), and in desperate cases the infiltration of the antitoxin into the spinal cord in the vicinity of the medullary centers. From five to fifteen minims may be injected into the nerve trunks at a sitting, and the operation may be repeated on subsequent days; the needle should be partially withdrawn and reinserted in different directions during the injection. Rogers[1] recommends tying loose ligatures around the nerves after the operation so that they may be readily drawn up and identified for further injections. In order to reach the medulla the intracerebral method of Roux or that of Rogers may be utilized. Kocher has devised a technic for the intracerebral injections. Anterior to the parieto-frontal suture and to one side of the median line the scalp is prepared, and a hole drilled through the skin and skull, having its direction toward the foramen magnum. By means of a long needle, the ventricle is penetrated and the serum, after injection, finds its way to the fourth ventricle to the imperiled respiratory and cardiac centers; 10 c.c. may be injected. Rogers seeks to accomplish the same end by a different technic. He introduces the needle between the sixth and seventh cervical vertebræ, punctures the cord deeply, and injects from 20 to 30 minims at a sitting. Although there is danger of intraspinal hemorrhage in the procedure, no ill effects were noted. It has been recommended also that the cerebrospinal fluid be withdrawn by means of lumbar puncture and substituted by antitoxin. Some physicians who have used this method report favorable results.

Second: The neutralization of all toxin which is not yet bound by the nervous tissue or absorbed by the motor nerves. This demands the infiltration of the wound and surrounding tissue with the antitoxin, and injection of a sufficient amount of the serum into the circulation in order that circulating toxin may be neutralized. The intraneural, intraspinal or intracerebral injections should always be supplemented by subcutaneous or intravascular injections. The first dose should be given intravenously, whereas subsequent injections may be given subcutaneously. The injections should always be repeated.

Standardization of Antitoxin.

Unfortunately, tetanus antitoxin is not standardized by American manufacturers and dosage can not be controlled with any accuracy. Although standardization can not be accomplished with the same degree of accuracy as in the case of diphtheria antitoxin, its approximate value can be determined (within 5 or 6 per cent.), which is sufficient for practical purposes. The antitetanic serums of Behring, Tizzoni and the Pasteur Institute are all standardized, but on somewhat different bases. Behring advises the administration of 20 units of his serum for prophylactic purposes, and 100 units as the "simple" curative dose when given soon after the development of symptoms.

Not less than 10 c.c. of American serum should be given for prophylaxis, and the dose should be repeated. No definite limits can be given as to the amount which may reasonably be given for curative purposes. Ten cubic centimeters given intravenously at once, and an equal amount subcutaneously on subsequent days, would seem to be sufficient to neutralize the unbound toxin if the serum has reasonable strength. Standardized serums certainly are to be preferred.

Agglutination has no practical significance for diagnostic purposes. An agglutinating power has been noted in the serum on the eighth day. Agglutinins may be produced by immunizing animals (rabbits) either with the bacilli or the toxin. In the latter case the formation of the agglutinin is due to the presence of agglutinogenic receptors in the toxin solution.

New Instrument

AN IMPROVED NEEDLE HOLDER.

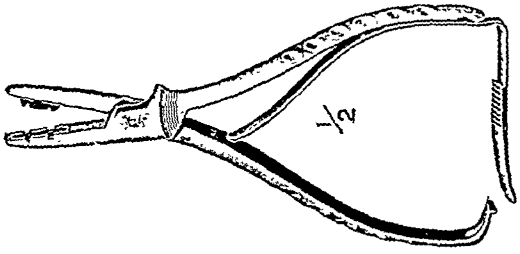
NORMAN BARNESBY, M.D.

NEW YORK CITY.

The needle holders now on the market are by no means perfect and, while I understand fully that my new device will be criticised, I feel that some members of the profession will appreciate its advantages and use it in preference to any previous instruments.

A matter of common complaint is that the holders known as the "Harris," "Emmett," "improved Russian," "Ferguson," "Halstead," "Hagedorn," "Byford," "Henchett," "Whiting," "Rhenier," "Abbe," do not come up to expectations and that great annoyance is caused during their use. Some of the above holders are useful for certain needles, but not one can be relied on to hold properly every kind of needle.

The needle holders which lock with a firm grasp and unlock when more pressure is used are very poor. I have a number of times broken needles, while they were in the tissues, by trying to unlock the holders, which is very unpleasant.



The accompanying cut shows my holder. Its advantages are:

1. It can be used with or without the clasp.
2. The fine ratchet-like clasp assures gradual pressure on needles, absolutely preventing them, no matter how fine, from breaking.
3. Hagedorn or any other kind of needle can be used in the V and square notch, while the two V notches are perfectly adapted to Hagedorn's.
4. Near the top of the handle there is a flange which is used as a support for thumb or finger. During the insertion of a needle, if the instrument and hand are wet, this flange will be found of great assistance in preventing the holder from slipping and will insure a firm hold.

Medicine and morals are inextricably intertwined. The immoral physician is foredoomed to failure. Let this axiom be clearly sounded from every chair in every medical college in the country. Whoever would be a successful physician must be a teacher and practitioner of morality—not necessarily by word of mouth—there are already too many such moralists—but by influence and conduct. He must persistently and consistently frown on immorality, because immorality *per se* is a powerful—perhaps, the most powerful—etiologic factor in a pathologic condition of mind and body which is pledged to combat and uproot.—*Medical Standard.*

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[1] "The Treatment of Tetanus by Intraneural and Intraspinal Injections of Antitoxin," Rogers. THE JOURNAL, July 1, 1905.

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ACTION OF COPPER AND ITS SALTS ON ORGANISMS.

Last year Drs. Moore and Kellerman[1] of the Bureau of Plant Industry, U. S. Department of Agriculture, made the important discovery that copper and its salts in very high dilutions are very efficient in killing green algæ and also various kinds of bacteria. Since that time a large amount of work has been done, especially in relation to water supplies, in order to test the accuracy of their claims and in practically every instance their results have been substantiated. Last summer in New York City, the ponds in the parks were treated with copper sulphate by rowing a boat from which bags of the salt were suspended in the water. The small amount of copper thus passing into solution was found very efficient in removing the foul smelling green scum which collects in the ponds, without interefering in any way with the growth of the higher desirable plants.

It has also been shown that certain kinds of bacteria, particularly those of the intestinal tract, are especially sensitive to copper and its salts. This fact indicates the significance of this discovery to sanitary science and to engineering problems concerned with water supplies.

Recently Pennington, Gildersleeve and Stewart[2] of Philadelphia have published reports of their investigations on the bactericidal action of copper and its compounds, especially with reference to the typhoid-colon group. From these studies, we learn that typhoid bacilli are very sensitive to extremely small amounts of copper, 1 part of the sulphate in 2,000,000 parts of water being sufficient to kill them in 10 hours. The *B. coli communis* and *B. dysenteriæ* are slightly more resistant. Of the copper salts, the sulphate has the greatest bactericidal action, this being due probably to its higher degree of dissociation. Solutions of colloidal copper, by which is meant copper dissolved from a bright copper surface when placed in water, are also found to be very efficient, even more so than the salts. Stewart found, for instance, that in a one-liter copper vessel 1 part of copper to 4,000,000 parts of water was dissolved in three hours and this amount of copper was sufficient to kill the added typhoid organisms in from one and three-quarters to two and one-half hours. Therefore, in a typhoid epidemic it would seem that water could be made safe by allowing it to stand for three hours in a copper vessel whose inner surface was polished. There is no evidence to indicate that copper in such amounts would have any effect whatever when taken into the human system.

Water in reservoirs easily can be made safe by such treatment with copper. As Jackson[3] reported before the New York section of the American Chemical Society, the sulphate in dilution 1-8,000,000 administered once or twice a year is sufficient to prevent all trouble from microscopic growths, and this dilution is so great that in order to obtain a medicinal dose it would be necessary to drink 40 gallons a day. If this method can be applied successfully to the sources of water supply certainly a very desirable result would be obtained.

Attention should be called to the fact, as Gildersleeve has pointed out, that sanitarians who are interested in this work do not advocate its use to the exclusion of other methods, such as filtration; but it may be a valuable method to use in conjunction with these if for any reason they may at any time become inefficient. Or the methods may be combined during periods of typhoid epidemics.

Perhaps a word should be said about the possibility of chronic poisoning from copper used in this way. Apparently at present insufficient evidence exists from which to draw any reliable conclusions with respect to this point, and it may require careful observations extending over a long period of time to settle this question. In the meantime the possibility should be kept in mind and proper precautions taken.

PRESIDENT ROOSEVELT ON THE PHYSICIAN.

President Roosevelt's address before the Associated Physicians of Long Island will bear more detailed comment than we gave to it last week. What he said of the medical profession is a decided tribute. He said that "the condition precedent on success in digging the Panama canal is having the proper type of medical work as a preliminary." He spoke of the physician's character in a most appreciative way. He said among other things: "The doctor has on the one hand to be the most thoroughly educated man in applied science that there is in the country, and on the other hand the doctor gradually becomes the closest friend to more different people than would be possible in any other profession." At considerable length, the President showed that he appreciates the duties, difficulties and opportunities of the scientific physician.

Referring to the task at Panama, he indicated the dependence that must be placed on medical science to make the conditions of work such that the engineers can accomplish their task. We echo his confidence that the conditions hostile to health are going to be controlled by the sanitary authorities. The alarmist stories brought by a few panic stricken individuals must be received at their true value. The fact is that the rainy season is never a favorable one for sanitary work in the tropics and, further, we are still suffering to some extent, it is probable, from the dilatory and red tape methods which were denounced by Dr. Reed. If Dr. Gorgas could have had full swing from the first we may safely assume that matters would be better now, as we feel sure they will be soon. There will be difficulty, especially on the Atlantic side of the isthmus, in controlling the mosquito pest, but what has been done in other tropical countries, the confederated Malay states for example, can be accomplished even there. We feel satisfied that the sanitary authorities on the isthmus will do their full duty if untrammelled and that the health results will be commensurate.

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[1] Bull. No. 64, Bureau of Plant Industry.

[2] Amer. Jour. Med. Sciences, May, 1905.

[3] Science, Dec. 9, 1904.

In expressing his confidence in the ultimate results at Panama, the President recalled the splendid example of Cuba, and paid a well-earned tribute to the effective work there of Leonard Wood. In this connection his words of resentment at the criticism to which Wood has been subjected were keen. "There has been no meaner and more unpleasant manifestation in all our public history than the feelings of envy and jealousy manifested toward Wood." And then came a sentence pregnant with sad thought for the men of medicine—"and the foul assaults and attacks made on him, gentlemen, were largely because they grudged the fact that this admirable military officer should have been a doctor." It is to be feared that there is herein too much truth. Why a physician should be grudged military or civil success it is not easy to reason out, but the fact seems real. Perhaps it is a popular inheritance from past ages, when medicine was not a science and when physicians were enmeshed in superstition. To what else can such prejudice be laid? Certainly the educated medical man of the present affords no excuse for such a view of his efforts. However, we need not heed it. Constantly, as we improve ourselves in education and fitness, our position is advancing. The physician of the future again will be, in a rational way, the arbiter of men's fortunes. The very words of the President are a step forward and we should be grateful to him, not for seeing our plight, but for speaking loudly his dissent from the too-prevalent anti-medical prejudice. Surely, though slowly, we are moving forward, and for every aid are grateful. Not least among our friends and appreciators stands Theodore Roosevelt.

PREMONITORY STAGE OF BRIGHT'S DISEASE.

One of the most interesting developments in the modern knowledge of disease has been the recognition of the fact that many affections formerly considered local are really general affections, with local manifestations. While typhoid fever to a certain extent deserves the old name of enteric fever, because of the frequency with which ulcers are found in the intestines, a febrile affection due to the presence of the typhoid bacillus in the human system may run its course without any intestinal manifestations at all. This is particularly true in certain cases in which there seems to be a true typhoid process in the gall bladder without intestinal lesions. This same set of events may occur with the pneumococcus, which usually produces definite pulmonary pathologic conditions, but may cause only other organic symptoms. Even pneumonia itself does not depend for its prognosis so much on the pathologic condition in the lungs as on the effect produced on the rest of the system by the presence of the toxins of the pneumococcus in the circulation.

It is not surprising, then, to find that there is coming to be a definite acceptance of the idea that the nephritis of Bright's disease by no means constitutes the essence of the affection described by the great English clinician at the beginning of the nineteenth century, but that the kidney affection is only a local manifestation of a systemic condition which has existed for some time previously until an involvement of the kidneys has been produced. At the present time the diagnosis of tuberculosis has advanced to a stage where the presence of a pulmonary affection would scarcely have been suspected a few years ago. The so-called pre-tuberculous stage of the older writers is now recognized to have been really the incipiency of the lung affection. In recent years not a few clinicians have insisted that a preliminary stage of Bright's disease, in which a high-tension pulse and an overacting heart with emphasized second sounds are the principal symptoms, has been possible of recognition by the careful observer. There seems to be a growing persuasion that this so-called preliminary stage is really the initial condition of Bright's disease, in which, though there are no symptoms of nephritis, the stage of preparation for the kidney degeneration so sure to ensue, is already well under way.

This definite acceptance of the possibility of recognizing very early stages of serious affections constitutes the most hopeful element for their favorable treatment. When tuberculosis was recognized only at advanced stages, treatment was practically hopeless, and the disease came to be considered as almost inevitably fatal. If Bright's disease be recognized only when there are serious signs of kidney degeneration to be found in the urine, then the disease necessarily runs a fatal course. If, as is claimed, it can be definitely diagnosed or at least reasonably suspected at a much earlier stage, then treatment, as in the case of tuberculosis, will doubtless prove much more helpful. There is no doubt that the toxic materials which produce the condition of irritation that leads to the contraction of arterioles, and to the consequent raising of blood pressure, find their way into the system from the digestive tract. It is not surprising that it is particularly the organs which have terminal end arteries, the kidneys and the brain, together with the retina, which is after all practically a portion of the brain, that suffer most from this increased blood pressure and from the presence of toxins.

Absolute intestinal antisepsis is impossible, but there is no doubt but that great improvement in the matter of obnoxious intestinal flora can be brought about by attention to diet. In cases in which there is a distinct tendency to increase of blood pressure, and in which the patient complains of a tendency to palpitation evidently something more than nervous in origin, the suspicion of this preliminary stage of Bright's disease should be entertained and treatment undertaken with the definite idea of decreasing the irritative factors that are at work. It has been evident for some time that the kidney symptoms are ordinarily not the most important, especially in the beginning of the disease. Hence the mystery that has surrounded the prognosis of these cases. Men refused life insurance because of kidney symptoms, that apparently pointed to Bright's disease, live for twenty-five or thirty years in excellent health. On the other hand, men with no kidney symptoms, or with symptoms so slight that there is question at most of a little physiologic albuminuria, are accepted and die within a few years. It is evident that there is great possibility of very practical increase in our knowledge of Bright's disease in the study of these initial cases. The watchword of our generation in all the chronic affections must be the recognition and treatment of the preliminary stage of the affection.

MEDICAL DEFENSE AND MALPRACTICE INSURANCE.

It is stated in *The Western Underwriter* that the attorney-general of Minnesota has received from the Physicians' Defense Association of Minnesota a complaint against those casualty companies that write a defense policy which includes in its benefits reimbursement for damages, as well as for costs of defense. This point recently has been mentioned several times in our columns.[1] In opposition to the more liberal contracts, it is alleged that they in reality nullify all laws providing a penalty for malpractice, and that they enable those so inclined to conduct an illegal practice without fear of punishment. The question is of some importance, and a decision in the Minnesota case will be awaited with interest.

DO WE CODDLE THE HEART?

A London doctor has recently been giving a warning against coddling the heart. If properly quoted in the press dispatches, Dr. Goodhart (auspicious name) says that he knows of no symptoms of a weak heart and that the use of the term leads to a nervous dread from which recovery is difficult or to an enervating, luxurious life of idleness which causes results tending toward the end that it was intended to prevent. The idea of cardiac muscular deficiencies has been pretty well preached during the past few years. Although there is no doubt that the weak heart notion has been sometimes carried too far and that the expression may be occasionally misleading, it would require the testimony of many good authorities to oust it from the medical mind at the present time.

THE DOSAGE OF DIPHTHERIA ANTITOXIN.

One who has followed the literature bearing on the use of diphtheria antitoxin must be struck by the divergence of opinion and practice characterizing the American and European authorities. In the United States great weight is attached to the potency of antidiphtheritic serum measured in specific antitoxin units, and among the producers of this remedial agent a sharp rivalry exists, with the object of obtaining the greatest possible potency in the least possible quantity of serum. This commercial strife for the production of extrapotent antitoxin, for which only an occasional horse can be found adaptable after a laborious and expensive process, and the premium placed on the antitoxin unit *per se*, have resulted in relatively high prices for the diphtheria remedy as prepared and marketed in the United States, and corresponding misunderstanding and dissatisfaction on the part of physicians, particularly those preferring to employ quantitatively larger doses of the serum. In Europe less stress is laid on the attainment of a superlative degree of concentration, and, while approximately the same number of antitoxin units are prescribed, a larger quantity of serum is administered. Whether the practice of our foreign confrères is sanctioned by scientific knowledge is difficult to determine, but it is certain that a reaction in favor of more massive doses of the diphtheria curative serum has begun in this country, seemingly based on the clinical experience of good observers. This tendency was strikingly in evidence during a lively discussion on the treatment of diphtheria at the meeting of the Ohio State Pediatric Society, in Columbus, May 9, 1905. More recently Louis Fischer[1] has recorded a similar opinion, based on his personal observation and on a study of the statistics of the Willard Parker Hospital. He recommends a dose of from 10 to 20 c.c. of serum, and uses one of medium potency. With these larger doses of antitoxin Fischer claims that the mortality is always lower than when smaller amounts are employed. At the bedside, therefore, the clinician has apparently learned what certain laboratory workers have long believed, viz., that there resides in the serum of the diphtheria-immunized horse, besides the specific antibody of diphtheria, some substance important from the curative standpoint; and for the proper effect of this substance, which apparently does not attain a high degree of concentration even in the antitoxic sera richest in the specific diphtheria antibody, a bulk of serum larger than that customarily employed in this country is required.

THE FATE OF PATHOGENIC BACTERIA IN BURIED CADAVERS.

In the prebacterial periods, more or less fear of infection from graveyards existed. Even to this day one occasionally hears the opinion expressed by medical men that burial underground as ordinarily performed is an insanitary method of disposal of the dead. While no disinfectant is equal to fire in prompt destruction of infectious material, yet all experimental and other investigations show conclusively that pathogenic microbes rapidly disappear as cadavers undergo decomposition after burial; furthermore, no evidence has been obtained to show that the numerous infectious organisms contained in dead bodies, human and animal, pass into the soil surrounding properly made graves in reasonably dry soil. Cholera and pest bacteria are not demonstrable after from seven to thirty days at the outside after burial in cadavers of patients who have died from either of these diseases. Typhoid bacilli are not found in bodies of typhoid fever patients buried for three months.[1] Tubercle bacilli may persist somewhat longer, and Schottelius claims to have demonstrated virulent tubercle bacilli in bodies buried between one and two years. Diphtheria bacilli, pyogenic organisms, tetanus and anthrax bacilli all have been found to disappear in from a few days to two months or so. The remains of rabid animals lose their infectious powers in from two to five weeks after burial. The only organisms that possibly might infect the adjacent earth in case of improper burial are anthrax bacilli and tetanus bacilli, which then would assume the spore forms. In this country, in which it is becoming more and more customary to inject dead human bodies with formalin solutions, it is probable that considerable direct destruction of bacteria is accomplished through the action of the formalin. As decomposition advances in cadavers, the pathogenic forms are crowded out by the saprophytes. Proper burial in ground suitable for the purpose, i. e., not swampy and draining directly into water supply, consequently can not be regarded as a procedure that merits condemnation because grossly insanitary.

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[1] In this connection, see also a letter on the subject in the Correspondence Department of this issue.

[1] New York Med. Jour., June 17, 1905.

YELLOW JACK ON AMERICAN SOIL.

An outbreak of yellow fever has occurred in New Orleans, chiefly among some Italian fruit handlers. Up to July 26 there had been 154 cases, with 34 deaths. It is with pleasure we record the fact that the local authorities and the United States Public Health and Marine-Hospital Service are working in perfect accord in their energetic efforts to stamp out the focus of infection, which appears to have slipped in quite unobserved from some Central American fruit steamer. At first all the cases were among Italians in the French quarter of the city, though on July 25 new cases were reported outside of the limits of the original outbreak. Of course the usual crop of quarantines has appeared among the gulf communities, but it is hoped that the rigors of former epidemics will not become necessary. An odd and wholly unprecedented feature of this outbreak is that Havana —once the fountain of all our yellow fever troubles —has instituted a quarantine against our own port of New Orleans. For the first time yellow fever on American soil will be fought on the basis of mosquito conveyance, and it is agreeable to learn that all the authorities concerned have harmoniously decided on this course. Windows, cisterns and wells are to be screened, and at every point the villainous stegomyia will meet unexpected difficulties in the struggle for existence. We hope that this epidemic may show that yellow fever in America, when it occasionally sneaks in, can be made a matter of houses, or at most of blocks, and that hereafter it will not be necessary to restrict travel and to create discomfort and suffering by interurban and interstate quarantines. Should this prove to be the case, this little epidemic will not be without good result. Finally, it is the devout wish of every physician that all medical men concerned in exterminating or in keeping out the disease will present a unanimous front to this enemy of humanity. In some former epidemics the more or less rancorous discussions among our fellow physicians have been of no service to medicine. Now that exact scientific knowledge of the etiology of yellow fever has been attained, there is less excuse for differences of opinion while the disease is present. Fortunately, too, the spirit of professional harmony has made itself felt during late years. We may therefore, in some professional pride, anticipate a prompt extermination of the disease without any waste of effort in detrimental discussion.

TRAINING NURSES BY MAIL.

Our attention has been called to an advertisement in the latest issue of a very respectable publication, the *Review of Reviews*, of the Chicago Correspondence School of Nursing. It is headed "Be a nurse. You can if you will"—that is, of course, by instruction by mail. If there is any occupation requiring careful practical teaching and daily experience with the exigencies that arise as the main part of the instruction, it is that of nursing. The practical part of the training is the main thing. No amount of merely theoretical knowledge can properly fit a person for such an occupation. It seems to us very much like a money-making scheme on the part of its promoters designed to capture the dollars of unsuspicious females. The diploma of a correspondence nursing school would be a very unsatisfactory credential to a physician seeking the aid of a trained nurse in the many exacting and perilous emergencies that arise in medical and surgical practice, and if this fact was generally appreciated the advertisement ought to bring very little business. We hope this will be the case.

Medical News

ILLINOIS.

Hospital Out of Debt.—A subscription of $1,925, made on July 2, together with other donations, has placed the Canton Public Hospital free from debt.

Lawn Fete for Hospital.—The lawn fete given July 20 by the auxiliary association of St. Francis Hospital, Evanston, netted more than $1,000 for the charity fund of the institution.

Post Hospital Enlarged.—Work has commenced on an addition to the post hospital at Fort Sheridan, which will cost $19,000 and will contain two wards for contagious diseases with a capacity of 36 beds.

Personal.—Dr. Frank H. Kimball, Rockford, was badly bruised in a runaway accident July 13.——Dr. Charles H. Starkel, Belleville, has been appointed chief surgeon of the Southern Railway Company's line between Louisville and St. Louis.——Dr. Edward C. Park, Flora, was knocked down by a carriage July 7 and slightly injured.

Chicago.

Personal.—Drs. Alfred Murray, Harry Kahn and Frederick C. Eggert sailed for Europe July 25.——Dr. Louis J. Pritzker has returned from abroad.——Dr. Gustave J. Bergener has returned from Paris.——Dr. Truman W. Brophy sailed for

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[1] Petri, Klein.

Europe July 25.——Dr. and Mrs. T. J. Robeson are spending a part of the summer at Fort Assinniboine, Mont.

Heat Causes Many Deaths.—As a result of the excessive heat of the first three days of last week the death rate for that period was the highest on record, equivalent to an annual mortality of 32.56 per 1,000.

Deaths of the Week.—During the week ending July 22 627 deaths were reported, 180 more than for the previous week and 89 more than for the corresponding week of 1904. Of these 188 were of infants less than a year old. Acute internal diseases caused 150 deaths; consumption 73; heat diseases, 57; violence, 47; pneumonia and Brights' disease, each 35, and sunstroke, 22.

Sanitaria for Babies.—Jackson Park Sanitarium for babies opened for the season July 14.——The Northwestern University Settlement at Augusta and Noble streets has opened accommodation for sick babies in the large, airy basement of the building, and in a tent pitched in front of the building, a trained nurse is in attendance, and the hospital is under the charge of Dr. William Butler.

INDIANA.

Incorporate Hospital.—The Joseph Eastman Hospital has been incorporated at Indianapolis, with a capital stock of $10,000, by Thomas B., Joseph Rilus, and Mary K. Eastman.

Hospital Dedicated.—The Reid Memorial Hospital, Richmond, erected at a cost of $80,000, of which Daniel G. Reid contributed $50,000 in memory of his wife and son, was dedicated July 27.

License Revoked.—The State Board of Medical Registration and Examination has revoked the license issued to Marie Stieler, Evansville, who is now serving a term of imprisonment for performing a criminal operation.

Conform to Standard.—The Fort Wayne College of Medicine has extended the term from seven to eight months to conform to the requirements of the American Medical College Association. Edward Mertz was elected professor of pharmacology; Dr. George W. McCaskey, professor of electrotherapeutics, and Dr. Alpheus P. Buchanan professor of dietetics.

Personal.—Dr. Irvin Lindenberger, resident physician at French Lick Springs, will move to Louisville about August 1. ——The office building and barn of Dr. John T. Freeland, Bedford, were damaged by fire to the extent of $600, July 11.—— Dr. John H. Hurty, secretary of the State Board of Health, has been awarded a medal and diploma for his exhibit at the Louisiana Purchase Exposition.——Dr. William C. Prough, Goodland, has been adjudged insane and committed to Longcliffe asylum.

LOUISIANA.

Sanitarium Opened.—The Baton Rouge Sanitarium, erected by local physicians, was opened July 12.

Personal.—Dr. George A. B. Hays, superintendent of the Louisiana State Insane Asylum, Jackson, has been tendered the superintendency of the Pineville Asylum near Alexandria.

Hospital Fund Grows.—The building fund of the New Orleans Eye, Ear, Nose and Throat Hospital has now passed the $50,000-mark. On July 9 the subscriptions amounted to $50,744.09.

Increase Subscription.—On behalf of his mother, sisters, brothers and himself, Charles Godchaux has increased his subscription of $50,000 for the building fund of the new Touro Infirmary. It has been decided to name the central pavilion the Leon Godchaux Memorial Pavilion.

The Yellow Fever Situation.—On July 25 at 10 p. m., it was officially announced by the Louisiana State Board of Health, that there had been 154 suspected cases of yellow fever and 34 deaths reported up to that time.——Mississippi has declared a rigid quarantine against Louisiana.——Texas denies passengers from New Orleans the privilege of passing through the state under any conditions.——New Orleans is being cleaned and disinfected and made mosquito-proof.—— Alabama has quarantined against Louisiana.——No fruit steamers less than six days out from Central American ports are to be allowed to land at New Orleans.——The state board has issued instructions that each suspicious case be reported and the isolated patient screened.——New Orleans has been quarantined from the rest of the state and business as well as travel is seriously interrupted. (See editorial.)

MARYLAND.

Baltimore.

Moale Left Large Estate.—The late Dr. William A. Moale left a personal estate of $250,000 besides a very large real estate amounting to several hundred thousand more. The whole is left in trust, the net income to be paid annually to his daughter.

Faculty Appointments.—The following appointments have been made at the University of Maryland School of Medicine: Daniel Base, Ph.D., professor of analytical chemistry; Arthur M. Shipley, M.D., associate professor of surgery; Summerfield B. Bond, M.D., clinical professor of genito-urinary diseases; James M. Craighill, M.D., Joseph E. Gichner, M.D., and A. Duvall Atkinson, M. D., clinical professors of medicine; Gordon Wilson, M.D., associate professor of clinical medicine; Richard Johnston, M.D., lecturer on diseases of nose and throat; Page Edmunds, M.D., instructor in genito-urinary diseases; Irving J. Spear, M.D., instructor in psychiatry; W. B. S. Levy, M.D., resident pathologist to the University Hospital.

Personal.—Dr. William S. Halstead received the honorary degree of Doctor of Laws at a special ceremony held at the University of Edinburgh July 22.——Dr. William Hewson Baltzell was received in audience by the Pope July 9. He will spend August in Switzerland.——E. B. Quillen has resigned the position of pathologist at University Hospital to accept an appointment as assistant surgeon in charge of the Atlantic Coast Line R. R. Hospital at Rocky Mount, N. C.——Dr. L. Wardlaw Miles has been appointed instructor in English in Princeton University.——Dr. C. W. McElfresh has returned from a visit to Rochester, Minn.——Dr. J. Williams Lord will spend the remainder of the summer at Lake George.——Dr. Guy L. Hunner is at Fisk Cottage, Chesterfield, N. H.——Dr. William S. Love is at Atlantic City.——Dr. Thomas Sudler, coroner of the Eastern district, who was overcome by the heat last week, is recovering.——Dr. I. R. Trimble is at Cape May.——Dr. William E. Moseley sailed for Bremen July 19. ——Dr. H. Clinton McSherry has lately returned to Baltimore after a prolonged residence in Switzerland and Southern France. He was operated on successfully for glaucoma before leaving Europe.

MINNESOTA.

Honor President-elect Mayo.—The physicians of Rochester, Minn., and the business men and other prominent citizens of that city and vicinity were highly gratified at the honor shown their fellow citizen, Dr. William J. Mayo, in his election as president-elect of the American Medical Association at the Portland session, July 11-14, 1905. A portrait of Dr. Mayo and a brief sketch of his life appeared in The Journal July 22, page 247. At a banquet in Rochester, Minn., tendered by the Commercial Club and the Merchants' Exchange on the evening of July 24, Dr. Mayo was the recipient of a handsome loving cup, a testimonial from neighbors and friends. The visiting physicians who happened at the time to be in attendance on the clinic, realizing the close association of Dr. Charles H. Mayo with his brother, took advantage of the occasion to present the former an elegant cut-glass vase. Addresses were made by Dr. W. D. Haggard, Nashville, Tenn.; Dr. R. T. Edwards, Oakland City; Dr. C. M. Rosser, Dallas, Texas; Governor Johnson, St. Paul; United States Senator M. E. Clapp, Chief Justice C. M. Stuart, Hon. E. M. Weston, president of the Great Western R.R., and others. Dr. Rosser said in part:

> In relation to society the science of human healing stands supreme, and the profession throughout the world looks to America for leadership. To be President of the American Medical Association involves, therefore, the very highest personal honor, and reflects a credit on this community and commonwealth, otherwise impossible. Those familiar with the advanced character of work done by the Mayos found no surprise in the announcement that the elder brother had been accorded his recent distinction, which I take to be intended as a tribute to the worthiness of both.
>
> Nothing is more engagi [illegible] on, and nowhere has it been more beautif [illegible] e in Rochester. As playmate brothers, as [illegible] a quarrel, here on your streets, and in the country home near by, with equal ambition to excel in doing good, yet prone to self effacement, they have through patient labor as scientific twins, achieved a joint distinction, great as gratifying.
>
> But, my friends, the created is always at least sentimentally second to the creator, and if praise was the portion of him who could cause "two blades of grass to grow where only one had grown before," who shall set the limit of gratitude toward the now venerable father, whose early sacrifice and whose sagacity made the present happy condition a necessary following, and who retiring from the activity of a useful life, leaves in his stead two such sons.
>
> I propose the continued health and happiness of Dr. W. W. Mayo, the illustrious sire. May he exchange the terrestrial for the celestial some sweet day, but let him be a long time about it.

MISSOURI.

Sanitarium Locaters.—The commission to locate the state sanitarium for tuberculosis met at Jefferson City for organization, July 10, and elected the following officers: William Bayliss, Clarence, president; J. L. Eaton, Bismarck, vice-president; Dr. L. Claude McElwee, treasurer, and W. D. Craig, Galena, secretary.

Personal.—Dr. George B. Thompson, Kansas City, coroner of Jackson County, while asleep, was robbed of $60 and a gold watch.——Dr. Vincil O. Williams, Bunceton, will succeed Dr. Charles B. Simcoe as assistant physician at the Nevada State Hospital, October 1.——Dr. Henry A. Schroeder, Braymer has been appointed surgeon for the Kansas City Laredo division of the St. Paul System.

St. Louis Health Commissioner Removed from Office.—Mayor Wells announced July 22 that he had sustained the charges filed against Health Commissioner Dr. John H. Simon. In accordance with these findings he removed him from office, and immediately appointed City Bacteriologist Dr. Charles A. Snodgras to act until September when the permanent appointment will be made by the city council. The temporary appointee, Dr. Snodgras, has been city bacteriologist during the past two years. In the trial of the charges against Dr. Simon, Dr. Snodgras was one of the principal witnesses against Simon, alleging, that in the municipal assembly he had hampered legislation of interest to the bacteriologic department, such as the passage of an appropriation for paying the wages of the stenographer and janitor of the bacteriologic laboratory. Dr. Simon denied this in rebuttal, showing by testimony of the speaker of the house of delegates that he had worked hard to have this legislation passed. Dr. Simon will resist the mayor's decision by appealing to the courts for an order of restraint to prevent his successor from taking office.

Skin and Cancer Hospital Opens.—On July 1 the St. Louis Skin and Cancer Hospital opened its doors for the reception of patients. This institution consists of a completely equipped hospital of forty beds, and an out-patient or dispensary service. Only skin and cancerous diseases are treated. The institution is founded on the research idea for cancer and allied types of malignant diseases. A pathologist has been appointed, who will conduct such scientific investigations as the opportunities of the hospital and clinic will permit. The medical staff of the institution will also, especially, direct their efforts to scientific endeavor. A training school for nurses, partaking of the character of a post-graduate school, has been established in connection with the hospital. Daily clinics for out-patients will be held. The institution is free of charge to all patients. Inoperable and incurable cancer cases, as well as operable cases, will be admitted to the hospital; the society hopes, in the near future, to have a home in the suburbs of the city, for the former cases. The following medical staff has been appointed: Drs. Gustav Baumgarten, Norman B. Carson, James R. Clemens, Martin F. Engman, Arthur E. Ewing, Edwin C. Burnett, Washington E. Fischel, Frank R. Fry, George Gellhorn, John Green, John B. Keber, Frank J. Lutz, Guthrie McConnell, Harvey G. Mudd, Greenfield Sluder, John B. Shapleigh, Elsworth Smith, Jr., Justin Steer, and Fred J. Taussig.

NEW YORK.

New York City.

Gifts to Hospitals.—Under the will of Margeretta A. Jones, her estate, which is appraised at more than $900,000, will be divided in equal shares among St. Luke's, Presbyterian and the Post Graduate hospitals. The incomes from these funds are to be used in providing free beds.

Bubonic Plague Aboard Ship.—The captain of the *Indrani*, which recently arrived from China and Japan, reported that one of the crew had died about a month before from bubonic plague and another, evidently suffering from the plague, had been put ashore. The crew was detained at quarantine and the vessel disinfected.

Going and Coming.—Dr. John A. Bodine sailed on the *Cedric* July 19.——Dr. William M. Ford arrived on the *Grosser Kurfuerst* July 19.——Dr. W. A. Bartlett sailed on the *Deutschland* July 20.——Dr. John W. Brannan sailed on *La Bretagne* July 20.——Dr. and Mrs. Francis J. Quinlan sailed on the *Deutschland* July 20.

Contagious Diseases.—There were reported to the Sanitary Bureau for the week ended July 15, 458 cases of measles, with 17 deaths; 371 cases of tuberculosis, with 136 deaths; 187 cases of diphtheria, with 27 deaths; 94 cases of typhoid fever, with 12 deaths; 50 cases of scarlet fever, with 5 deaths; 34 cases of cerebro-spinal meningitis, with 32 deaths and 34 cases of varicella.

Would Reduce Infant Death-Rate.—The Health Board is exerting every possible effort to cut down the death-rate among the babies of the tenements, and to this end, 110 men who are employed during the winter as school inspectors have been appointed to inspect the milk sold to the poor, to visit tenement houses and to instruct mothers in the proper manner of caring for milk.

At Work on Food Adulteration.—The officials of the Health Department announce that they are doing their utmost to protect the people of this city from food adulteration. The chief of the analytical laboratory, James P. Atkinson, says more money is needed to carry on the work as extensively as is needed. He has only two assistants who are available for food analysis. He believes that many of the deaths reported as ptomain poisoning have been due to other imprudent mixtures. In cases of suspected poisoning a fresh, unopened can of the brand supposed to be adulterated should be sent to the department.

Results of Hot Spell.—From July 9 to May 21 there were 193 deaths due to the heat and hundreds of prostrations. On July 18 there were 266 ambulance calls registered at police headquarters up to 9:30 p. m. Two physicians on the staff of St. Vincent's Hospital were prostrated by heat and overwork and the staffs and nurses of all hospitals were kept very busy. The death rate for the week was 23. at the annual rate of 23.01 per 1,000, as compared with 21.04 per 1,000 for the same period last year. The deaths recorded for the week ending July 15 showed 479 from diarrheal diseases, 435 of which were in children. The number of deaths in the tenement districts was 826, and of these 636 were children under one year.

Typhoid in Queens.—Typhoid fever is spreading in the borough of Queens. There are many cases at College Point and local physicians attribute it to the sewage flowing out in the mud flats of Flushing Bay and remaining there. St. John's Hospital, Long Island City and Long Island City itself have also many cases. Statistics at the Health Department show that the number of typhoid cases reported each year is decreasing with each annual report. Only two other cities in the United States have as low a death rate due to typhoid fever as New York. In 1903 there were 314 deaths due to typhoid out of 2,334 cases reported, while in 1904 there were 281 deaths and only 1,786 cases reported. Up to the present month there have been 85 deaths out of 478 cases reported, as against 115 deaths out of 818 cases reported in the same period of 1903.

PENNSYLVANIA.

Philadelphia.

Dr. Keen Honored.—Dr. William W. Keen, who is attending the celebration of the quarter-century of the Royal College of Surgeons, had the honorary degree of doctor of laws conferred on him by Edinburg University July 22.

Personal.—Among the physicians who sailed for Europe on the *Noordland*, July 15, were Drs. W. Wayne Babcock, Edgar W. Tully, and Samuel Wolfe.——Dr. Charles Weber is spending the summer in Europe.——Dr. William Krause sailed for Europe, July 18.——Dr. and Mrs. G. Hudson Makuen sailed for Hamburg on the *Pennsylvania* July 22.——Dr. and Mrs. Henry W. Stelwagon are spending the summer in Belgium and Holland.

Physician Committed.—Dr. Walter A. Van Voorhis was committed to prison, July 21, by the coroner, charged with the death of a woman resulting from a criminal operation. Dr. Van Voorhis denied being implicated in the woman's death, and said that he had treated her, but in a legal manner. The coroner's physician, who made the autopsy, testified that the cause of death was due to septicemia following the administration of drugs.

Health Report.—The total number of deaths reported for the week was 608, as compared with 548 for last week, and 482 for the corresponding period last year. The great increase is attributable to the extremely hot weather, as the increased mortality was due almost entirely to disease of infants and aged persons. During the week 233 infants died. The actual deaths from sunstroke reported were 19. The principal causes of death were: typhoid fever, 18; tuberculosis, 53; diphtheria, 4; cancer, 24; meningitis, 6; apoplexy, 28; convulsions, 7; heart disease, 47; acute respiratory disease, 24; enteritis, 138; Bright's disease, 31; inanition, 12, and marasmus, 23. There were 142 cases of contagious disease reported, with 22 deaths, as compared with 163 cases and 14 deaths reported last week. There were 108 cases of typhoid fever, with 18 deaths.

GENERAL.

Quarantine Against Panama.—The government of Costa Rica has declared Panama plague infected, though only one fatal case has been reported, and has prohibited the entrance of vessels from any port on the Isthmus to any port of the republic.

Yellow Fever in Panama.—Cable reports from Panama are still discouraging. At present seven patients with yellow fever are under treatment. Governor Magoon reported the death of an American employe July 15. The man was taken sick July 8.

Prompt Supply for the Isthmus.—A recent requisition by cable was filled at New York and the supplies reached the Isthmus in two weeks, a marked difference from the months that have sometimes elapsed while an order was only being approved. This requisition included thirty-eight tons of insect powder and revealed the fact that only twenty tons were to be had in New York City. Other items were twenty tons of sulphur, one hundred iron pots in which to burn it, fifteen tons of newspapers for making tight enclosures in the open buildings in connection with fumigation and seven tons of flour to make paste.

Progress in Temperance.—The American Medical Society for the Study of Alcohol and Other Narcotics held a successful meeting at Portland, Oregon, July 12, 1905. Papers were read and discussed and resolutions were adopted commenting on various evidences of progress in this very important field of medicine. Resolutions congratulating the people of this country on having made the study of physiology and hygiene, including the nature and effects of alcoholic drinks and other narcotics, compulsive for her 22,000,000 children of school age and also Great Britain on the fact that, through the efforts of practically the entire registered medical profession of the United Kingdom, public school study of the same subject is on the way to accomplishment, thus laying the foundation for a future of intelligent sobriety, strength and efficiency for the whole English speaking race. These resolutions also expressed joy in the evidence that the public school teaching in America of physiology and hygiene, including the nature and effects of alcoholic drinks and other narcotics, is resulting in better obedience to the laws of health, in a growing sentiment in favor of public sanitation and total abstinence, despite our enormous foreign immigration, and in the rapidly increasing prohibition of alcohol in industrial employments.

CANADA.

Street Cleaning Under a Health Department.—The street cleaning of Toronto has been placed under the charge of the city's medical health officer, Dr. Charles Sheard. This is a distinct advance in sanitary science in this city.

Personal.—Dr. Swale Vincent, Winnipeg, Man., professor of physiology in the medical faculty of the University of Manitoba, has been invited by the University of London, Eng., to deliver a course of lectures on "The Ductless Glands."

Winnipeg General Hospital.—For the week ending Saturday, July 8, the total number of patients treated in the Winnipeg General Hospital numbered 310, 188 men, 88 women and 34 children. In the outdoor departments the number treated was 136.

Lodge Practice Condemned in a Canadian City.—The Medical Society of Peterboro, Ont., has resolved that after Jan. 1, 1906, there will be no more lodge practice in that city. Twenty-six out of the twenty-eight practitioners, most of whom have been associated with lodge practice during the past five or ten years, have agreed to dispense with it altogether after the above named date.

British Medical Association.—The profession of Toronto met on the afternoon of July 13 for the purpose of extending a formal invitation to the British Medical Association to meet in Toronto in 1906, thereby indorsing the action of the Canadian Medical Association, which had dispatched an invitation in 1903. It was unanimously agreed that the profession in Toronto should commission Mr. I. H. Cameron, at present in England, to extend this invitation on behalf of the profession of Toronto.

Mental Wards in General Hospitals.—There are a certain class of cases often immediately adjudged insane and confined in so-called insane asylums, which would be far better cared for in mental wards in general hospitals. Toward this end in the province of Ontario, a deputation of medical men waited on the premier, the Hon. Mr. Whitney, on July 14. The deputation comprised members of both the Toronto Clinical Society and the Ontario Medical Association, and because it was a large one the proof is apparent that the profession of this province would like to see facilities for caring for these cases such as is done in Albany, N. Y., and other places, before commitment is made to an ordinary asylum for the insane. Dr. D. Campbell Meyers was the chief spokesman. The premier promised that the subject would have the immediate and careful consideration of his government.

FOREIGN.

Yellow Fever in Venezuela.—No improvement is reported in the yellow fever situation in Maracaibo. On the contrary, the disease seems to spread.

Plague in Great Britain.—A fatal case of plague occurred in Manchester, England, on June 12. The patient had been employed as cook on the steamer *Hylas*, from the Argentine Republic, via Hamburg.

Gift to Bergen, Norway, of a Laboratory for Pathologic Anatomy.—Dr. E. G. Gade has presented his native city of Bergen with $30,000 to equip and support a laboratory for pathologic anatomy. Bergen has long been wishing for a university or at least a medical institute of some kind.

Organization of the Profession in Germany.—The official board in charge of the construction of the canal at Kiel, Germany, wishes to have its medical officers sign a contract binding them to report to headquarters any patient who voluntarily retards his recovery. The local and district medical societies are protesting against this clause as degrading to the profession, and hope that no physicians will be found to accept the positions on these terms.

Endowment For Home For the Local Medical Societies of Nuremberg.—A liberal-minded citizen of Nuremberg, Germany, has endowed a fund of $80,000 for the erection and maintenance of a building to serve as a museum, library and gathering hall for local physicians. It is similar to the Pettenkofer House which Munich has long planned as a memorial to Pettenkofer and for which subscriptions have been laboriously collected, but which is yet far from approaching realization.

Postponement of International Congress of Gynecology.—The local committee in charge of the arrangements for the Fifth International Congress of Obstetrics and Gynecology, appointed for September, 1905, at St. Petersburg, announce that so many communications have been received from physicians and medical societies at home and abroad, expressing doubts whether the congress could prove a success under existing conditions, that it has been decided to cancel all dates for this year and postpone the gathering until September of 1906. The themes, programs, etc., already announced will be adhered to, modified as circumstances developing during the year may demand.

Yellow Fever in Africa.—In *Public Health Reports* it is stated that a death from yellow fever has occurred at Dakar in the French colony of Senegal on the west coast of Africa. A frightful epidemic of this disease occurred there in 1900 and the authorities, warned by their experience at that time, are taking every possible precaution to prevent the spread of the disease. The patient's family has been isolated and the house and furniture burned, the government assuming the loss. The hospital authorities have purchased wire cages, each of which will hold a bed, table and chair, in which to care for other yellow fever cases, should such occur, in order to prevent mosquitoes biting them and then infesting others.

Medical Study Trip to the Health Resorts of France.—The seventh annual trip of physicians and medical students to the health resorts of France will commence this year September 1, and continue till the 14th. The spas to be visited are those in the southwest of the country, including Luchon, Barbazan, Pau, Biarritz and Arcachon. The organizer of these instructive trips is Dr. Carron de la Carrière, rue Lincoln 2, Paris, France, from whom further details may be learned. The Chatel-Guyon Company, the Vichy Company, Professor Henrot of Rheims and two local medical societies have each endowed a membership in these study trips, the recipients to be an interne or recent medical graduate or member of one of the local societies interested.

Plague in Japan.—According to the report of Passed Assistant Surgeon Moore, in *Public Health Reports*, up to June 8, eleven cases of plague have been reported in Tokyo. All these cases have occurred in a section of the city inhabited by the poorer class of Japanese and not much frequented by foreign visitors. The disease has appeared in Kogawa Ken, a prefecture in the northern part of the island of Shikoku. Shiga, the bacteriologist, of Tokyo, investigated the outbreak and reported that during the period from May 30 to June 8, there occurred in one village 15 cases of plague with 8 deaths. Speaking generally, Dr. Moore states that the plague situation in Japan shows no signs of amelioration and that this infection has never manifested itself in a more threatening manner in that country.

Advance of Cholera on Europe.—Chantemesse spread before the Paris Académie de Médecine at a recent meeting the details of the onward march of cholera toward western Europe. He regards it as extremely significant that at present the disease is installed in four different menacing foci, at Merv in the Trans-Caspian district, at Tiflis, Baku and Batoum in the Trans-Caucasian district, at Van in Anatolia, and along the banks of the Volga, in Astrakhan, Saratov and Samara. At these points the cholera hibernated but resumed its aggressions on the appearance of warm weather. It is now thoroughly established at Bagdad, which is a new and powerful center for its further spread. He thinks that the fear of its reaching western Europe is well founded.

International Congress on Tuberculosis.—The official announcement of this congress, to be held at Paris, October 2-7, states that there are to be four sections, medical pathology, surgical pathology, preservation and assistance of infants and the same for adults. "The New Methods of Early Diagnosis of Tuberculosis" will be the subject of a report by Achard of Paris, Mariani of Genoa, and C. T. Williams of London. "Treatment of Lupus by the New Methods" will be presented by Forchhammer, chief of the Copenhagen Light Institute, by Lesser of Berlin and by Jeanselme and Chatin of Paris in the medical section. A copy of the official circular in English will be sent on demand to Dr. M. Letulle, 21 rue de l' Ecole de Médecine, Paris, with any information desired. The circular contains the entire list of subjects and communications to be presented, with the list of subjects suggested by the committee of organization.

Merkel's Seventieth Birthday.—The friends of Prof. G. Merkel gathered at Nuremberg June 29 to celebrate his seventieth birthday and present him with a *Festschrift* in the form of the eighty-fourth volume of the *Deutsches Archiv f. klinische Medizin*, with which he has been connected since 1871. A subscription of $2,000 had also been raised and was presented in his name to the endowment fund for the relief of physicians' widows. The city authorities conferred honorary citizenship on him for his achievements in promoting sanitation and hygiene, in the construction of the new model city hospital, etc. One of the interesting features of the festivities was the address to his wife made by the burgemeister. He presented her with a wreath in the name of the city, for her predominant share in maintaining the "Leistungsfähigkeit" of her husband, that is, for the keeping of her husband in such good health and spirits that he is able to do such good work in these various lines. A portrait bust, tablets, etc., were also presented to Merkel from the Erlangen medical faculty and others, and the day closed with a lunch at the Merkel home, followed next day by a banquet tendered by the local medical society.

Program of International Congress.—The next International Medical Congress, to be held in Lisbon April 19 to 26, 1906, is expected to be one of great importance, in spite of its being held in what has always been considered as an out of the way country. Some of the most distinguished men of the medical profession have offered papers. Some of the topics for discussion that have been selected by the executive committee are the following:

SECTION OF DESCRIPTIVE AND COMPARATIVE ANATOMY, ANTHROPOLOGY, EMBRYOLOGY AND HISTOLOGY.

Definition, structure and composition of protoplasm.
Origin, nature and classification of pigments.
Cellular changes in normal tissues.
Evolution and involution of the thymus gland.

SECTION OF PHYSIOLOGY.

The rôle of leucocytes in nutrition.
The thyroid secretion.
Renal permeability.
The nutritive value of alcohol.
The physiology of the cytotoxins.
The blood ferments.

SECTION OF GENERAL PATHOLOGY, BACTERIOLOGY AND PATHOLOGIC ANATOMY.

What are the present scientific proofs of the parasitic nature of neoplasms, especially of cancer?
Preventive inoculations against bacterial diseases.
Preventive inoculations against protozoic diseases.
Preventive inoculations against diseases from an unknown specific agent.
The pancreas and fat necrosis.

THERAPEUTICS AND PHARMACOLOGY.

Local therapeutics in infectious diseases.
Separation, from a physiologic and therapeutic point of view, of the different radiations produced in Crooke's tubes and of those which are sent out by radioactive bodies.
The therapeutic value of bactericidal serums.
The relation between the molecular constitution of organic bodies and their physiologic and therapeutic action.

SECTION OF MEDICINE.

The pathogenesis of diabetes.
The pathogenesis of arterial hypertension.
The treatment of cirrhosis of the liver.
s.
ainst tuberculosis.

SECTION OF PEDIATRICS.

Spastic affections of infancy; classification and pathogenesis.
Cerebrospinal meningitis; etiology and treatment.
The social struggle against rickets.
Orthopedic surgery in affections of nervous origin, spastic and paralytic.
Congenital dislocation of the hip.
The treatment of abdominal tuberculosis (peritoneal).

NEUROLOGY, PSYCHIATRY AND CRIMINAL ANTHROPOLOGY.

Penal reform from the anthropologic and psychiatric point of view.
Forms and pathogenesis of dementia præcox.
The relations of progressive muscular atrophy to Charcot's disease.
Cerebral localization in mental disease.
Education and crime.
Stigmata of degeneration and crime.

SECTION OF SURGERY.

Septic peritoneal infections; classification and treatment.
Gastrointestinal and intestinointestinal anastomoses.
Recent additions to arterial and venous surgery.

SECTION OF MEDICINE AND SURGERY OF THE URINARY ORGANS.

Surgical intervention in Bright's disease.
Surgical treatment of prostato-vesical tuberculosis.
Progress of urology in the diagnosis of renal disease.
Painful cystides.

SECTION OF OPHTHALMOLOGY.

Blepharoplasty.
Serotherapy in ophthalmology.

SECTION OF LARYNGOLOGY, RHINOLOGY, OTOLOGY AND STOMATOLOGY.

Study of the foreign bodies in the ear and of vegetatio
The different the maxillary sinus.
Injections of paraffin in rhinology.
Differential diagnosis of tubercular, syphilitic and cancerous lesions of the larynx.
Choice of anesthesia in the extraction of teeth.
Treatment of alveolar suppuration.

SECTION OF OBSTETRICS AND GYNECOLOGY.

Conservative surgery of the ovaries.
Tuberculosis of the adnexa.
Symphyseotomy.
Pregnancy and cancer of the uterus.
Therapy of puerperal infections.

SECTION OF HYGIENE AND EPIDEMIOLOGY.

The intermediary of yellow fever.
The co-operation of nations to prevent the importation of yellow fever and the pest.
Watering the streets as a means against tuberculosis.
Recent additions to the etiology and epidemiology of epidemic cerebrospinal meningitis.

SECTION OF MILITARY MEDICINE.

Portable ration of the soldier during campaigns.
The purifying of the country water.
Emergency hospitals on the battlefield.

SECTION OF LEGAL MEDICINE.

Signs of death from drowning.
Ecchymoses in legal medicine.
Epilepsy in legal medicine.
Organization of medicolegal services.

SECTION OF COLONIAL AND NAVAL MEDICINE.

Etiology and prophylaxis of beri-beri.
Etiology and prophylaxis of dysentery in hot countries.
Mental diseases in tropical countries.
Hospital ships and their function in time of war.
Tuberculosis in the navy and its prophylaxis.

See page 1942 for further details of Congress.

Correspondence

Malpractice Insurance and Medical Defense.

HARTFORD, CONN., July 14, 1905.

To the Editor:—The discontinuance by the Travelers' Insurance Company of the insurance of physicians against the consequences of professional errors has been made the subject of comment in several recent numbers of THE JOURNAL. From what you have published it seems that you and your readers are under some misapprehension respecting the scope of physicians' and surgeons' liability insurance. In your editorial, April 1, you refer to it as insurance against malpractice suits. The opinion of the attorney-general of Iowa, to which reference is made in THE JOURNAL, April 22, seems to involve a like error, and Mr. E. H. Merritt, in his interesting letter published in the same number, evidently understands that it was the purpose of the insurance to cover malpractice, defined by him as "bad professional treatment of disease from reprehensible ignorance or carelessness."

The Travelers Insurance Company never issued a policy purporting to protect a physician or anyone else against the penalty of misconduct or bad conduct. Wanton mischief is not insurable, and a contract pretending to afford protection to one guilty of such an offense would not be enforced by any court. Physicians' and surgeons' liability insurance, and all other liability insurance written by responsible companies, excludes such misconduct. The policy mentioned as "malpractice insurance" insures the physician against damages recoverable "by reason of any error or mistake made by the assured in the practice of his profession." This phraseology limits the insurance to the unintentional negligence of the insured, for which, nevertheless, those who suffer thereby may be entitled to claim damages. In order that the exclusion of willful or gross negligence may be beyond question, the policy contains the further provision that the insurance does not cover claims founded wholly or in part on "the violation of any law or ordinance, nor while the insured is under the influence of intoxicants or narcotics or while engaged in any act outside the practice of his profession."

And in order that this kind of insurance might not extend beyond the bounds of prudent and ethical underwriting, policies were issued only to reputable and properly trained and accredited members of the profession. So limited, physicians' liability is a useful branch of the insurance business and may with propriety pay recoverable damages for such errors as have been made by many conscientious, painstaking and experienced physicians and surgeons, as well as the expenses of conducting the defense.

The discontinuance by the Travelers Insurance Company of this form of insurance is not, therefore, to be taken as an admission that it reflected discredit on either the company or the profession, because clearly it was not insurance against the merited penalties of malpractice or bad practice, of which no one ought to be able to relieve himself by insurance or otherwise.

I have no objection to disclosing the reasons by which the officers of the company were influenced. The premium rate was inadequate to the losses and expenses of the business. To conduct a defense properly, which the insurance company was bound to do at any cost, expensive expert testimony was necessary in every case, judgments when recovered were large, other expenses incidental to the management of such cases were large, comparatively few members of the profession cared for such insurance, wherefore the volume of business was small. The authorities of one or more states were not hospitable, laboring, it seemed to me, under the somewhat general misapprehension that the Travelers Insurance Company was engaged in protecting all kinds of doctors, regular, irregular and disreputable, against the consequences of malpractice. All these considerations indicated that it would be better to leave the business in the hands of other companies, who have the leisure and disposition to specialize it, than to make the effort to overcome all the disadvantages presented. Apparently the result when achieved, with adequate premium, would have been an insufficient reward for the time and energy diverted from more profitable and satisfactory lines.

S. C. Dunham,
President, the Travelers Insurance Company.

Anti-Spitting Laws and Associated Inconsistencies.

Chicago, July 18, 1905.

To the Editor:—During the years 1904 and 1905 I have received some very excellent circulars from the secretary of the State Board of Health of Illinois in reference to the alarming condition of tuberculosis in all states and especially in the crowded portions of Chicago. Last week I received a similar circular from the Illinois State Medical Society urging general practitioners especially to become more alert in the early detection and prevention of tuberculosis. Last winter I was pleased to see, as a result of these circulars and of the free public lectures on the prevention of tuberculosis, that the authorities in Chicago were thoroughly awakened to the alarming conditions and that many arrests of sidewalk expectorators were made. For weeks thereafter people went to the edge of the sidewalk to expectorate in the street. So far, well and good, but to my horror and chagrin when the warm weather came the "white-wings" honestly but unwittingly swept these dried tubercular germs into the nostrils of the unsuspecting multitudes daily passing by. Many times this summer I have had to hold my breath as I passed these clouds of germ-laden dust. This seems to me a travesty on hygienic precautions. A chain is no stronger than its weakest link; I therefore urgently ask that, through the medium of The Journal A. M. A., this matter be brought to the attention of the medical profession and especially to the department of health.

H. A. Cuthbertson.

Dr. Warren Kept His Portland Engagement.

Seattle, Wash., July 18, 1905.

To the Editor:—It is not generally known that the degree of LL.D. had been awarded to Dr. J. Collins Warren of Boston, orator on surgery at the session in Portland, by the University of Edinburgh, Scotland. Had he accepted the degree, his presence would have been required in Edinburg, and in consequence he could not have fulfilled his Portland engagement. This smacks of the fine spirit of 1776. It is just to Dr. Warren that the profession should know this self-denial of our colleague in putting aside the great honor.

J. H. Musser.

Association News

OFFICIAL MINUTES OF THE SECTIONS.

The following are the official minutes of the Portland, Ore., proceedings of the various sections, July 11-14, 1905, as far as received. The minutes of the Section on Stomatology and of the Section on Laryngology and Otology and of the Section on Pharmacology and Therapeutics will appear later. The list of members registered at the Portland session will be published as soon as verification of the lists is completed.

Section on Practice of Medicine.

TUESDAY, JULY 11.—AFTERNOON.

Dr. Richard C. Cabot in the Chair.

"The Incidence of Heart Disease in San Francisco," by Dr. William Fitch Cheney, San Francisco. Discussed by Drs. Ophuls, Walsh and Grandy.

"The Secret Nostrum Evil," by Dr. Frank Billings, Chicago. Discussed by Drs. Musser, Moore, Stengel, Walsh, Bridge, Priestley, Witherspoon, King, Grosse, McCleave, Stockton, Stengel, Bridge, and Carter.

"Studies in Roentgen Ray; Diagnosis of Chest Diseases," by Drs. James E. Talley and W. S. Newcomet of Philadelphia (read by Dr. Hall). Discussed by Drs. Neilsen, Musser, McCaskey and Hall.

Dr. Alfred Stengel, Philadelphia, offered resolutions (which were printed in full in The Journal, July 22, 1905, p. 275), and moved their adoption. Seconded and carried.

Dr. J. J. Walsh, New York, made a motion that the resolutions be also sent to the secretary of the Canadian Medical Association for the purpose of informing that association of the methods employed in attempting to do away with nostrums. The motion was seconded and carried.

WEDNESDAY, JULY 12.—MORNING.

SYMPOSIUM ON NEPHRITIS.

A paper on "General Considerations on the Pathology of the Kidney," by Dr. W. T. Councilman, Boston, was not read, but reference was made to it by the Chairman, Dr. Cabot.

"Albuminuria in Nephritis and Bright's Disease," by Dr. Alfred Stengel, Philadelphia.

"Cylindruria," by Dr. Chas. P. Emerson, Baltimore.

"The Relation of Kidney Conditions to Puerperal Eclampsia," by Dr. Philip King Brown, San Francisco.

"The Dietetic Treatment of Nephritis," by Dr. F. C. Shattuck, Boston.

These five papers were discussed by Drs. Witherspoon, Ophuls, Bulkley, Hutchinson, Francine, Walsh, Billings, Musser, Fussell, Le Roy, Lichty, Stengel and Brown.

WEDNESDAY, JULY 12.—AFTERNOON.

SYMPOSIUM ON ANIMAL PARASITES AND TROPICAL DISEASES.

"Symptoms, Diagnosis and Prognosis of Amebiasis in the Tropics," by Dr. W [illegible] I. Discussed by Drs. Dock, Lemon, Blac [illegible] Musgrave.

"The Mode of [illegible]" by Dr. Claude A. Smith, Atlanta, Ga. [illegible] ll, Cheney, Brown and Smith.

A nominating committee was appointed, consisting of Drs. Hall, Stockton and Shattuck.

THURSDAY, JULY 13.—MORNING.

SYMPOSIUM ON THE STOMACH.

"Recent Advances in the Physiology of Human Nutrition," by Dr. Frank Billings, Chicago.

"Methods, Value and Limitations of the Knowledge of the Gastric Contents," by Dr. George Dock, Ann Arbor, Mich.

"Non-Gastric Diseases Presenting Gastric Symptoms," by Dr. J. H. Musser, Philadelphia.

"Food Stagnation from All Causes," by Dr. Charles G. Stockton, Buffalo, N. Y.

These four papers were discussed by Drs. Cabot, McCaskey, Manges, Black, Miller, Anders, Shattuck, Bond, Walsh, Lichty, Cooper, Bridge, Billings, Dock, Musser and Stockton.

"Type of Tuberculosis on the North Pacific Coast," by Dr. Woods Hutchinson, Portland. Discussed by Drs. Cheney, Miller, Bridge, Brown, Ophuls, Robbins, Osborne, Moffit, and Hutchinson.

ELECTION OF OFFICERS.

The election resulted as follows: Chairman, Dr. Herbert C. Moffit, San Francisco; secretary, Dr. J. L. Miller, Chicago; alternate, Dr. George Dock, Ann Arbor.

"Coccidioidal Granuloma," by Dr. W. Ophuls, San Francisco, Discussed by Dr. Rykfogel.

"Thyroid Disease in California," by Dr. Herbert C. Moffit, San Francisco. Discussed by Drs. Walsh, Wells, Quevil, McCaskey, Whiteside, Grandy, Lichty, Johnson, and Moffit.

"The Value of Various Hemoglobin Instruments to the General Practitioner," by Dr. M. Howard Fussell of Philadelphia.

Section on Obstetrics and Diseases of Women.

TUESDAY, JULY 11—AFTERNOON.

Dr. Manton presided while the Chairman, Dr. C. L. Bonifield, delivered his address.

The first paper was by Dr. T. B. Eastman, Indianapolis, on "Innocent Fibromyoma of the Uterus." Discussed by Drs. F. B. Andrews, W. F. Wakefield, J. H. Carstens, L. H. Dunning, D. H. Craig, Hawkins, W. O. Henry, R. T. Gilmore, and C. L. Bonifield.

Dr. William E. Ground, Superior, Wis., read a paper on "Causes of Failure After Successful Gynecologic Operations." Discussed by Drs. J. H. Carstens, D. H. Craig, G. M. Wells, Hawkins, Newman, and Ground.

Dr. F. J. Taussig presented a resolution concerning the report on uterine cancer from the Gynecologic Section of the International Congress of Arts and Science, entitled: "What May Be Done to Increase the Percentage of Cures in Uterine Cancer?" The resolution was referred to the House of Delegates. (This resolution and report are printed in full in THE JOURNAL, July 22, page 283.)

WEDNESDAY, JULY 12—MORNING.

The Section convened at 9:30, Dr. Bonifield presiding.

Dr. J. Riddle Goffe, New York, read a paper on "Tubal Pregnancy, with Report of an Instructive Case."

Dr. J. H. Carstens read a paper entitled "Some Cases of Extrauterine Pregnancy."

These two papers were discussed by Drs. R. T. Gilmore, L. H. Dunning, C. O. Thienhaus, Perkins, D. C. Brockman, W. E. Ground, W. O. Henry, C. L. Bonifield, and Carstens.

Dr. W. F. Wakefield, San Francisco, read a paper on "Postoperative Pelvic Exudates." Discussed by Drs. H. O. Pantzer, C. O. Thienhaus, D. H. Craig, J. Riddle Goffe, C. S. Bacon, J. H. Carstens, F. B. Andrews, H. C. Crowell, and Wakefield.

Dr. F. B. Andrews, Chicago, read a paper entitled "Hernia of the Fallopian Tube." Discussed by Dr. T. B. Eastman and A. Goldspohn.

WEDNESDAY, JULY 12—AFTERNOON.

Called to order at 2 p. m.

Dr. L. H. Dunning, Indianapolis, read a paper on "Gonorrhea in the Female." Discussion by Drs. D. H. Craig, A. Goldspohn, W. O. Henry, and Dunning.

The Chairman appointed the following nominating committee: J. H. Carstens, L. H. Dunning, D. H. Craig, E. F. Tucker, and F. H. Wiggin.

Dr. W. D. Kelly, St. Paul, read a paper entitled "An Operation for Pyosalpinx, Without Ligature, Clamp, Artery Forceps or Bleeding, by Overthrow Provisional Suture Method." Discussed by Dr. Ryan, Iowa.

Dr. A. Goldspohn contributed his "Fourth Detailed Report of the Superior and Lasting Results of the Bi-inguinal Operation for Simple and Complicated Aseptic Retroversion of the Uterus."

Dr. D. H. Craig, Boston, read a paper entitled "The Conservation or Restoration of Normal Anatomy in Gynecologic Surgery."

Discussion on these two papers by Drs. C. O. Thienhaus, W. O. Henry, A. E. Gallant, Frisbee, E. F. Tucker, H. O. Marcy, Goldspohn, and Craig.

Dr. E. F. Tucker, Portland, read a paper on "Etiology and Treatment of So-called Endometritis." Discussed by Dr. Marcy.

On motion the Chair appointed Drs. Tucker, Clark (Philadelphia) and Marcy a committee to report next year on proper nomenclature of endometritis.

THURSDAY, JULY 13—MORNING.

The Section convened at 9 a. m.

Dr. George B. Somers, San Francisco, read a paper on "Repair of the Perineum." Discussed by Drs. Carstens, Marcy, Wakefield, Ferguson, Clark, Bacon, Andrews, Kieffer, and Somers.

Dr. F. D. Donoghue, Boston, read a paper entitled "Some Complications of Pregnancy Treated Surgically." Discussed by Drs. Montgomery, Bacon, Carstens, Dorsett, and Donoghue.

Dr. C. S. Bacon, Chicago, followed with a paper on "Pulmonary Tuberculosis as an Obstetric Complication."

Dr. G. S. Whiteside, Portland, read a paper on "Maternal Syphilis."

These two papers were discussed by Drs. Bertola, Taussig, Davis, Henry, Carstens, Donoghue, Bacon, and Whiteside.

Dr. Ferguson was given permission to exhibit a new obstetric forcep, and Dr. Gallant, a new metal uterine drain.

Dr. W. H. Sanders, Montgomery, Ala., read a paper on "The Physiologic and Legal Status of the Fetus in Utero," which was discussed by Dr. Marcy.

THURSDAY, JULY 13—AFTERNOON.

Convened at 2 p. m.

The Nominating Committee reported as follows: Chairman, Charles S. Bacon, Chicago; Vice-chairman, E. F. Tucker, Portland; Secretary, W. P. Manton, Detroit; Delegate, D. H. Craig, Boston; Alternate, T. B. Eastman, Indianapolis.

On motion, the report was adopted and the Secretary instructed to cast the unanimous ballot of the Section for the election of these officers.

Dr. J. A. McKenna, Lansdowne, Pa., read a paper on "Present-day Methods of Conducting Labor Cases and Results Obtained." Discussed by Drs. Shannon and McKenna.

Dr. E. V. Davis, Chicago, read a paper on "A Study of the Female Bony Pelvis." Discussed by Drs. Henry, Carstens, and Davis.

Dr. E. T. Shelly, Atchison, Kan., read a paper on "The Maternal Impression Superstition in Modern Obstetrics Teaching." Discussed by Drs. Carter and Henry.

Dr. L. H. Branson, Iowa City, read a paper on "Syncytioma Malignum." Discussed by Dr. Henry.

Section on Surgery and Anatomy.

TUESDAY, JULY 11—AFTERNOON.

Chairman's address, by Dr. Maurice H. Richardson, Boston.

"The Cure of Inguinal Hernia," by Dr. Henry O. Marcy, Boston. No discussion.

The Chairman announced that papers would be limited to twenty minutes and discussions to five minutes.

"Fibroid Growths of the Abdominal Wall," by Dr. Charles A. Powers, Denver. Discussed by Drs. Robert F. Weir, New York; E. Rixford, San Francisco; McGlennon, Baltimore; Connell, Fond du Lac; Willoughby, Los Angeles; Fulton, Astoria; L. L. McArthur, Chicago, and M. H. Richardson, Boston.

"Splanchnoptosis from a Surgical Standpoint," by Dr. James E. Moore, Minneapolis. Discussed by Drs. Coffey, Oregon; A. Ernest Gallant, New York, and B. B. Davis, Omaha.

"The Early Diagnosis of Gastric Ulcer," by Dr. H. D. Niles, Salt Lake City.

"Clinical Experiences with the Use of the McGraw Elastic Ligature," by Dr. A. J. Ochsner, Chicago.

"Ulcer of the Stomach and First Portion of the Duodenum, with Especial Reference to the Operative Treatment," by Dr. W. J. Mayo, Rochester, Minn.

These papers were discussed by Drs. Hugo Pantzer, Cincinnati;
A. P. Fr odhue, Dayton, Ohio; J.
H. Carst land.
"Acid Effects of Anesthetics,"
by Dr. sed by Drs. Herbert C.
Moffitt, San Francisco; Harry M. Sherman, San Francisco;; Woods Hutchinson, Portland; Binswanger, Portland, and D. A. K. Steele, Chicago.

"Perforations in Typhoid Fever," by Dr. Richard H. Harte, Philadelphia. Discussed by Drs. Lawrence Litchfield, Pittsburg; Charles A. Powers, Denver, and Morris Manges, New York.

WEDNESDAY, JULY 12—MORNING.

"A Clinical Chart for the Record of Patients in a Small Hospital," by Dr. George F. Wilson, Portland, Ore. Discussed by Drs. Wright, Salt Lake City, and Harry M. Sherman, San Francisco.

"Preliminary Report of a Study of Tetanus," by Dr. James M. Anders, Philadelphia. Discussed by Drs. Smith, Hartford; L. L. McArthur, Chicago; G. McCaskey, Ft. Wayne; Walsh, Erie; McLean, California.

"Cysts of the Spleen," by Dr. W. A. Bryan, of Nashville, Tenn.

"Indications for the Removal of the Pathologic Spleen," by Dr. B. B. Davis, of Omaha. Discussed by Drs. M. L. Harris, Chicago; Charles A. Powers, Denver: Schleeter, St. Louis; A. H. Cordier, Kansas City; H. G. Marxmiller, Cincinnati; McDaniel, San Antonio; Jepson, Iowa, and Griffiths, Kansas City.

"Lip Operation for Cancer and Deformity, with Report of Cases," by Dr. W. W. Grant, of Denver.
Report of Case, with Prothetic Ap-
L. Terry, of San Francisco.
on the Intestines, Five of Which Were
er, of Hartford.

"Cancer," by Dr. William L. Rodman, of Philadelphia.

These four papers were discussed by Drs. Sherrill, Tinos; J. J. Hamilton, J. C. Stewart, McLenahan; Martin, Levings, Rixford, Parham, Sailer, Frank and Powers.

WEDNESDAY, JULY 12—AFTERNOON.

"A New Method of Incising and Suturing the Liver to Reestablish Its Continuity and for the Control of Hemorrhage," by Dr. Jacob Frank, of Chicago.

"Gallstones in the Common Duct," by W. D. Haggard, Nashville, Tenn.

"Non-calculous Cholecystitis," by Dr. David S. Fairchild, of Des Moines, Iowa.

These three papers were discussed by Drs. McLaren, Potter, Grotham, Cooper, Ochsner, Carstens, Mayo and Hamilton.

"Penetrating Wounds of the Abdomen," by Dr. R. Winslow, of Baltimore. Discussed by Drs. Cooper, Brayton, McRae, Willard, and Boucher.

"Meckel's Diverticulum as a Cause of Abdominal Crises," by Dr. Miles F. Porter, of Ft. Wayne. Discussed by Drs. Winslow and Jepson.

"Phlebitis Following Abdominal Operations," by Dr. A. H. Cordier, of Kansas City. Discussed by Drs. Tinos and Goldspohn.

"Anaërobic Cellulitis, with Report of Successful Cases," by Dr. J. Clark Stewart, of Minneapolis. No discussion.

Dr. Brayton, of Indiana, announced that the Indiana delegation had with them the first woman operated on for gallstones, and that she would be shown to-morrow to the Section on Obstetrics and Diseases of Women.

THURSDAY, JULY 13—MORNING.

"Exstrophy of the Bladder Successfully Treated by Peter's Method, with Illustrations," by Dr. Harry M. Sherman, San Francisco. Discussed by Drs. Wells and McArthur.

"Tuberculosis of the Kidney," by Dr. J. Garland Sherrill, Louisville, Ky. Discussed by Drs. Smith, Richardson, Huntington,. Sharples, Munson, and Frank.

"Treatment of Congenital Dislocation of Hip, with Report of Cases," by Dr. Park Weed Willis, Seattle, Wash. Discussed by Drs. Hunkin, Willard, Thienhaus, Sherman, Parker, Moore, Baldwin, and Ochsner.

"Ununited Fracture in Cases of Delayed Union," by Dr. Casper W. Sharples, Seattle, Wash. Discussed by Drs. Martin, Huntington, Sherman, Hunkin, and Means.

"Site of Origin of Gallstones," by Dr. L. L. McArthur, Chicago. Discussed by Drs. Thienhaus, Richardson and Weir.

"Fractures of the Leg; Their Diagnosis and Treatment, with

Report of Cases and Demonstration of X-Ray Pictures," by Dr. C. O. Thienhaus, Milwaukee, Wis. Discussed by Dr. Knox.

ELECTION OF OFFICERS.

The following officers were elected:

Chairman, Dr. Robert F. Weir, New York; Secretary, Dr. A. MacLaren, St. Paul.

Dr. Willard announced that the senior member of the Executive Committee retired and the outgoing chairman took his place.

Dr. Ochsner moved that the Secretary be instructed to cast a [illegible] the men nominated by the Executive Com- [illegible]

[illegible] nked the section for the honor conferred. [illegible] Dr. Ochsner as delegate, but he declined. [illegible] and Dr. Ochsner seconded, the nomination of *Dr. Jonas, of Moaga.* Carried unanimously.

It was moved and seconded that the Executive Committee be empowered to fill all vacancies occurring for any cause during the ensuing year.

Dr. Powers moved a standing vote of thanks to Rev. E. P. Hill and the officers of the First Presbyterian Church for the use of the church for the meetings of the section. Carried.

Dr. Ochsner moved a vote of thanks to the retiring Chairman and Secretary of the Section. Carried.

Drs. Richardson and McRae briefly replied.

Section on Ophthalmology.

TUESDAY, JULY 11.—AFTERNOON.

The Section was called to order by the Chairman, Dr. Christian R. Holmes, Cincinnati, at 2 p. m.

Prof. J. Hirschberg of Berlin was introduced as an invited guest of the society.

Drs. Frank Allport, Chicago, and Robert L. Randolph, Baltimore, of the Executive Committee, being absent, the Chairman appointed to serve in their places Drs. Edward Jackson, Denver, and Samuel D. Risley, Philadelphia.

Dr. Melville Black, Denver, representative in the House of Delegates, not being present, the chairman appointed Dr. W. H. Snyder, Toledo, Ohio.

The Chairman then delivered his address: "Studies of School and Hospital Hygiene of Interest to the Ophthalmic Surgeon" (illustrated with Lantern Slides).

"Is Keratitis Ever Caused by Rheumatism?" by Dr. Leartus Connor, Detroit. Discussed by Drs. W. H. Snyder, Toledo, and Leartus Connor, Detroit.

"The [illegible] H. Snyder, Toledo, [illegible] go.

"The [illegible] t of the Interni," [illegible] ssed by Drs. G. C. S[illegible] o; Dudley S. Reynold[illegible] Samuel D. Risley, Philadelphia; John E. Weeks, New York; C. H. Williams, Boston; Wm. Zentmayer, Philadelphia; Leartus Connor, Detroit, and J. S. Kirkendall, Ithaca, N. Y.

"Lateral Displacement of Tendon Insertions for the Cure of Strabismus," by Dr. Edward Jackson, Denver. Discussed by Drs. G. C. Savage, Nashville, and Edward Jackson, Denver.

"Transitory Paralysis of the Abducens; with Report of Cases," by Dr. Meyer Wiener, St. Louis. Discussed by Dr. H. Stillson, Seattle.

On motion of Dr. Samuel D. Risley, Philadelphia, the society voted to instruct th[illegible] he House of Delegates to nominate its guest, [illegible] of Berlin, for honorary membership in the [illegible]

The Section was called to order at 9 a. m. by the Chairman, Dr. C. R. Holmes.

WEDNESDAY, JULY 12.—MORNING.

"[illegible] mple Method of Accurately Localizing by [illegible] dy in the Eye," by Dr. Vard H. Hulen, San [illegible] by Drs. J. E. Weeks, New York; E. Jack[illegible] Hulen.

"[illegible] by Dr. John A. Donovan, Butte, Mont.

"[illegible] Their Lessons," by Dr. F. C. Heath, Indianapolis.

"Traumatic Lesions of the Eye," by Dr. F. W. Miller, Los Angeles, Cal.

These three papers were discussed by Drs. E. Jackson, Denver; Prof. J. Hirschberg, Berlin; Eugene Smith, Detroit; W. E. Briggs, Sacramento; L. H. Taylor, Wilkesbarre; J. E. Weeks, New York; S. D. Risley, Philadelphia; M. D. Stevenson, Akron; J. A. Donovan, Butte, Minn., and F. G. Heath, Indianapolis.

"Description of an Advancement Suture, with Collective Suggestions Regarding Operations on the Ocular Muscles," by Dr. Mark D. Stevenson, Akron, Ohio. Discussed by Drs. G. C. Savage, Nashville; W. C. Posey, Philadelphia; J. E. Weeks, New York; J. A. L. Bradfield, La Crosse, Wis., and M. D. Stevenson.

WEDNESDAY, JULY 12.—AFTERNOON.

The Section was called to order at 2 p. m., by the Chairman, Dr. C. R. Holmes.

Address (by special invitation) by Prof. J. Hirschberg, Berlin.

Dr. S. D. Risley, Philadelphia, moved that the society extend a vote of thanks to Professor Hirschberg for his eloquent and learned address, and that a copy be requested for publication in the transactions. The motion was carried by a standing vote.

Professor Hirschberg presented to the society a *volume on Arabian Ophthalmology*, dedicated to the *Section*, which was accepted by the Chairman with thanks.

"The Ocular Symptoms of Affections of the Accessory Sinuses of the Nose," by Dr. W. C. Posey, Phila[illegible] C. R. Holmes, Cincinnati; J. E. Brown, [illegible] Toledo; F. W. Hilscher, Spokane; S[illegible] Leartus Connor, Detroit; E. Jackson [illegible] Butte, Mont.; J. A. L. Bradfield, La [illegible] Seattle, and W. C. Posey, Philadelphia.

"The Extraction of Uncomplicated Immature Senile Cataract," by Dr. A. E. Bulson, Jr., Fort Wayne, Ind. Discussed by Prof. J. Hirschberg, Berlin, and Drs. S. D. Risley, Philadelphia; J. A. Bach, Milwaukee; W. C. Posey, Philadelphia; Eugene Smith, Detroit; C. R. Holmes, Cincinnati, and A. E. Bulson, Jr.

"Endothelio-Cylindroma of the Orbit, with Report of a Case. Removal, with Preservation of the Vision and Motility of the Eye," by Dr. John E. Weeks, New York. Discussed by Drs. C. R. Holmes, Cincinnati; E. V. L. Brown, Chicago, and J. E. Weeks.

"The Prevention and Cure of Progressive Axial Myopia by Appropriate Treatment of the Internal and External Recti Muscles; with Report of Cases," by Dr. F. S. Crocker, Chicago. Discussed by Drs. G. C. Savage, Nashville, and F. S. Crocker.

THURSDAY, JULY 13.—MORNING.

The Section was called to order at 9 a. m., by the Chairman, Dr. C. R. Holmes.

"Rat-tail Tendons for Sutures in Eye Surgery," by Dr. Kaspar Pischel, San Francisco.

Dr. de Beck, Seattle, demonstrated a number of ingenious devices of the Indians of the northwest for the prevention of snowblindness, all of which were made *of wood and on the principle* of our "goggles."

"Iritis Tuberculosa as Diagnosed and Treated by Koch's Tuberculin," by Drs. W. A. Gamble and E. V. L. Brown, Chicago. Discussed by Drs. A. E. Bulson, Jr., Fort Wayne; Kaspar Pischel, San Francisco, and E. V. L. Brown.

"New Test Types [illegible] trical Progression," by Dr. Charles H. [illegible] sed by Drs. D. S. Reynolds, Louisville [illegible] and C. H. Williams.

"Subconjunctival [illegible] S. D. Risley, Philadelphia. Discussed [illegible] Philadelphia; L. H. Taylor, Wilkesbarre [illegible] A. E. Bulson, Jr., Fort Wayne; S. L. [illegible] a.; Leartus Connor, Detroit; Kaspar P[illegible] rof. J. Hirschberg, Berlin, and S. D. Risley.

"[illegible] phthalmitis," by Dr. [illegible] by Drs. E. V. L. [illegible] and W. Zentmayer.

"Non-toxic Ambly[illegible] Moore, Huntington, W. Va. [illegible] by Drs. G. C. Savage, Nashville, Dudley S. Re[illegible] W. C. Posey, Philadelphia; S. D. *Risley*, [illegible] Connor, Detroit, and T. W. Moore.

THURSDAY, JULY 13.—AFTERNOON.

The Section was called to order at 2 p. m., by the Chairman, Dr. C. R. Holmes.

The Executive Committee, by its Chairman, Dr. *John E. Weeks*, New York, *reported* [illegible] s for officers of the Section for the ensui[illegible] . H. Taylor, Wilkesbarre, Pa.; Vice-Chai[illegible] Chicago; Secretary, Dr. A. E. Bulson, J[illegible] delegates, Dr. C. R. Holmes; Cincinnati; [illegible] nnor, Detroit.

The Committee also recommended the following resolution for adoption:

Resolved, That not more than half the time available for any one session of the Section shall be allotted to the reading of papers, and that the section officers are instructed to arrange the program in accordance with this rule.

Resolved, That each person proposing to read a paper before the Section shall inform the section officers of the maximum time he will require to present it, that such time shall be taken into account in deciding to give it a place on the program; and that such time limit shall be rigidly enforced.

The report of the committee was submitted to the Section and unanimously adopted.

"Amblyopia Caused by Wood Alcohol," by Dr. C. S. G. Nagle, San Francisc[illegible]

"Experime[illegible] of Dynamic (Spastic) Astigmatism. [illegible] Dr. F. B. Eaton, San Francisco. [illegible] Philadelphia; de Beck, Seattle, and [illegible]

"A Case o[illegible] Choroid," by Dr. L. H. Taylor, Wilkesbarre, Pa.

"A Contribution to the Etiology of Pigmented Sarcoma of the Choroid," by Prof. J. Hirschberg, Berlin.

These two papers were discussed by Drs. D. S. *Reynolds* Louisville; J. E. Weeks, New York; Kaspar Pischel, San *Francisco*; L. H. Taylor, Wilkesbarre, and Professor Hirschberg, Berlin.

The Section extended a vote of thanks to Dr. J. F. Dixon, of Portland, for his kindness in arranging for the meeting hall, etc., and to the officers of the Section for their excellent work.

A vote of thanks was also extended to Prof. J. Hirschberg, Berlin, for his kindness in being present and in addressing the society.

Section on Hygiene and Sanitary Science.

TUESDAY, JULY 11.

In the absence of the Chairman, Dr. John S. Fulton, Baltimore, the Secretary, Dr. M. L. Price, Baltimore, called the Section to order at 2 p. m., and Dr. H. G. Beyer was asked to take the Chair temporarily.

Dr. Beyer took the Chair and read the Chairman's address from the manuscript of Dr. Fulton. The address was discussed by Drs. Heg, Chapman, Price, Morrison, Janeway, Foster, Powers, Lindsay, Carroll, and Browning.

WEDNESDAY, JULY 12—MORNING.

Dr. Heg in the Chair.

"Recent Progress in Matters of Water Supply and Sewage Disposal," by Mr. G. W. Fuller, New York City, was read by Dr. Beyer, in the absence of the author. Discussed by Drs. Foster, Price, Janeway, Lewis, Cummings, Pierce, Beyer, and Heg.

Dr. H. G. Beyer, U. S. Navy, read a paper on "The Water Supply of Ships from Its Early Beginnings to the Present Time." Discussed by Drs. Lewis, Woodruff, Powers, Price, and Browning.

Dr. Charles E. Woodruff, U. S. Army, read a paper on "Cholera." Discussed by Drs. Lewis and Woodruff.

WEDNESDAY, JULY 12—AFTERNOON.

Dr. Beyer in the Chair.

Dr. Browning requested a discussion on the subject of the systematic disinfection of school buildings, but at this point Dr. Woodruff offered the following resolution, which he moved *that* the Section on Hygeine and Sanitary Science adopt and submit to the House of Delegates.

WHEREAS, The science of prevention of disease having been long established on a solid scientific basis, it is now time that this fact be recognized by the national Legislature; be it

Resolved, By the American Medical Association that the attention of the people and of their representatives in Congress be directed to the fact that no adequate provision by law has yet been made to avoid in time of war the preventable deaths by disease of the soldiers who offer their lives for the preservation of the Nation; be it further

Resolved, That this Association also heartily indorses the statement of the President of the United States that the people have not compelled their representatives to provide adequately in advance for the medical system, in its personnel, material, its organization and physical instruments necessary to make that organization effective, which alone, if prepared in advance, will obviate the trouble which otherwise is certain to come if we have a war.

Dr. Woodruff addressed the meeting in explanation of his offer of the resolution, and the resolution was discussed by Drs. Beyer, Janeway, Lewis, and Woodruff.

The motion on the resolution was then put by the Chairman and carried.

Dr. James Carroll, United States Army, read a paper on "Some Experiments in Feeding Cultures of Bacillus Typhosis." Discussed by Drs. Ryland, Morrison, Beyer and Carroll.

THURSDAY, JULY 13—AFTERNOON.

ELECTION OF OFFICERS.

The Secretary called the meeting to order and stated that the first business was the election of officers. The Secretary then appointed a nominating committee, consisting of Dr. Carroll, of Washington, D. C., Chairman; Dr. Chapman, of Ohio, and Dr. Foster, of California. The committee reported the following nominations: Chairman, H. G. Beyer, U. S. Navy; Secretary, M. L. Price, Baltimore; member of the House of Delegates, James Carroll, U. S. Army; Executive Committee, G. T. Swartz, Rhode Island; H. M. Braehm, Minnesota; J. W. Fulton, Baltimore.

Dr. Lewis: Let me ask if the Executive Committee is appointed or elected?

The Secretary: The Executive Committee is provided for by the by-laws of the American Medical Association, but it is customary for the sections to indorse their names.

Dr. Dewey, of Washington, then moved to substitute the name of Dr. Denslow Lewis, Chicago, for Chairman; Dr. E. J. Heg, of Washington, for Secretary, and Dr. H. G. Beyer for Delegate to the American Medical Association.

There was no contest as to the nominations on the Executive Committee, and, on ballot, Dr. Denslow Lewis was elected Chairman.

Dr. Lewis then nominated Dr. H. W. Dewey, of Washington, for Delegate to the House.

On ballot Dr. Elmer J. Heg was elected Secretary.

On ballot Dr. Dewey was elected Member of the House of Delegates.

The Secretary then requested Dr. Lewis to take the Chair temporarily. Dr. Lewis addressed the meeting.

Dr. D. N. Carpenter, U. S. Navy, read a paper on "The Relation of the Water Supply to the Diseases of the Panama Isthmus." Discussed by Drs. Lewis and Carpenter.

Dr. M. L. Price, of Baltimore, read a paper on "The Principles of Life." Discussed by Dr. Lewis.

Section on Diseases of Children.

TUESDAY, JULY 11—AFTERNOON.

The Section was called to order at 2:45 p. m. by the Chairman, Dr. John Lovett Morse, of Boston.

The Secretary, Dr. J. Ross Snyder, then took the Chair and the Chairman delivered his address: "The Teaching of Pediatrics."

"A Plea for National and Local Boards of School Hygiene," by Dr. Alice M. Smith, Tacoma, Wash. Discussed by Drs. Wahrer, Fort Madison; Fairbanks, Boston; Garrison, Dixon, Ill.; McGavin, Portland, and Smith.

"Rules for the Care of Young Infants in Public Institutions." by Dr. H. M. McClanahan, Omaha. Discussed by Drs. John C. Cook, Chicago; Arthur W. Fairbanks, Boston; Alice M. Smith, Tacoma; Lindsay, Boulder; Wahrer, Fort Madison, and McClanahan.

WEDNESDAY, JULY 12—MORNING.

The Section was called to order shortly after 9 a. m. by the Chairman, Dr. John Lovett Morse. Dr. A. C. Cotton, of Chicago, was appointed to serve on the Executive Committee in the place of Dr. C. G. Kerley, New York City.

"On Amaurotic Family Idiocy," by Dr. A. C. Cotton, Chicago. Discussed by Drs. Morse and Cotton.

"The Prevention of Summer Diarrhea," by Dr. Maurice Ostheimer, Philadelphia. Discussed by Drs. Wahrer, Fort Madison; Silver, New York; Kate Lindsay, Boulder; C. Blumer, San Francisco; Arthur W. Fairbanks, Boston; A. C. Cotton, Chicago; Wells, North Yakima; Moore, New York City, and Ostheimer.

"A Study of Fifteen Cases of Diarrhea in Children," by Dr. John C. Cook, Chicago. Discussed by Drs. Michael, Chicago; Fairbanks, Boston, and Cook.

"Ataxia of Central Origin Appearing in Childhood," by Dr. Arthur W. Fairbanks, Boston. (With lantern slide exhibition at close of session.) Discussed by Drs. Wahrer, Fort Madison, and H. E. Garrison, Dixon, Ill., and Fairbanks.

WEDNESDAY, JULY 12—AFTERNOON.

The Section was called to order by the Chairman.

"Pneumonia in the Young," by Dr. Edward F. Wells, Chicago. Discussed by Drs. A. C. Cotton and William J. Butler, Chicago; Riley, New York; Fairbanks, Boston; Morse, Boston, and Wells.

"Pleural Effusions in Children," by Dr. C. F. Wahrer, Fort Madison. Discussed by Drs. Cotton, Chicago; Butler, Chicago: Hanson, Cleveland, and Wahrer.

"Typhoid Fever in Children," by Dr. William J. Buter, Chicago. Discussed by Drs. Quigley, Tacoma; Farrbanks, Boston, and Butler.

THURSDAY, JULY 13—MORNING.

The session was called to order by the Chairman about 9:30 a. m.

"The After-Effects of Diphtheria on the Heart," by Dr. Franklin W. White, Boston, was read by the Secretary. Discussed by Drs. C. B. Campbell, Maine; H. M. McClanahan, Omaha; Butler, Chicago; Fairbanks, Boston; C. F. Wahrer, Fort Madison; H. E. Garrison, Dixon; Kate Lindsay, Boulder; W. J. Butler, Chicago, and Morse, Boston.

"The Management of Children with Typhoid Fever," by Dr. W. C. Hollopeter, Philadelphia. Discussed by Drs. John C. Cook, Chicago; Kate Lindsay, Boulder; Cotton, Chicago; Morse, Boston; H. E. Garrison, Dixon, and Hollopeter.

THURSDAY, JULY 13—AFTERNOON.

The Section was called to order by the Chairman about 2:30 p. m.

Dr. H. M. McClanahan, on behalf of the Executive Committee, made the following announcement [illegible] hairman, Dr. W. C. Hollopeter, Philadelphia [illegible] lliam J. Butler, Chicago; Delegate, Dr. C. F. [illegible]

The Secretary was authorized to [illegible] ie nominations. The ballot was so cast.

The Secretary, Dr. J. Ross Snyder, of Birmingham, offered the following resolution:

"*Resolved*, by the Section on Diseases of Children of the American Medical Association, That the Chairman appoint a committee of three to ascertain the average number of hours and the relative importance given to the subject of pediatrics in the courses of instruction in the medical schools of the country; to investigate the various methods and the efficiency of instruction in this subject; and that this committee shall make a report to this body at its next annual meeting."

Dr. John C. Cook, of Chicago, moved that Dr. J. Ross Snyder be made chairman of such a committee. *Carried.*

The Chairman announced that he would appoint additional members of the committee later.

Dr. Cook moved that a vote of thanks be tendered the Secretary, Dr. J. Ross Snyder, for his work in making a list of the previous Chairmen and Secretaries of the Section to date. The motion was seconded by Dr. Wahrer and carried.

Section on Nervous and Mental Diseases.

TUESDAY, JULY 11—AFTERNOON.

The Section was called to order at 2:20 p. m. by the Chairman, Dr. J. H. McBride, Pasadena.

The Chairman's address was read by Dr. J. H. McBride, Pasadena.

The report of the Committee on Drug Addictions was read by the Chairman, Dr. Smith *Ely Jelliffe*, New York. On motion *the* report was accepted and the committee continued for one year.

"Defects of Will in Practical Medicine," by Dr. H. T. Pershing, Denver. Discussed by Drs. D. R. Brower, Chicago; *Tomlinson*, St. Peters, Minn.; G. R. Clark, Dearborn: Gilbert, Portland, and Pershing.

"Neurasthenoid Conditions—So-called Neurasthenia," by Dr. Robert Hessler, Logansport, Ind. Discussed by Dr. J. H. McBride, Pasadena.

No other authors on the program for Tuesday afternoon being present, on motion, it was decided to take up the program for Wednesday morning.

On motion, the Secretary read the paper by Drs. Charles K. Mills and T. H. Weisenberg, Philadelphia, on "The Localization of the Higher Psychic Functions, Especially with Reference to the Prefrontal Lobe." Discussed by Drs. Tomlinson, St. Peter's, Minn.; House, Portland, Ore., and J. H. McBride, Pasadena, Cal.

"Landry's Paralysis, with Report of Case," by Dr. Robert McGregor, Saginaw, Mich.

"Types of Multiple Neuritis," by Dr. David I. Wolfstein, Cincinnati.

These papers were discussed by Drs. H. T. Pershing, Denver: Brower, Chicago; House, Portland; G. R. Clark, Dearborn; H. G. Brainerd, Los Angeles; Tomlinson, St. Peter, Minn.; McGregor and Wolfstein.

WEDNESDAY, JULY 12—MORNING.

The session was called to order at 10 a. m. by the Chairman.

On motion, the Secretary read the paper by Dr. F. W. Langdon, Cincinnati, on "Nervous and Mental Manifestations of Prepernicious Anemia." Discussed by Drs. Wolfstein and Tomlinson.

"Periodic Paralysis," by Dr. G. E. Holtzapple, York, Pa. Discussed by Drs. Kilbaum and Holtzapple.

On motion, the following committee was appointed to nominate officers of the Section for the ensuing year: Drs. H. A. Tomlinson, St. Peter, Minn., Chairman; H. G. Brainerd, Los Angeles, Cal., and H. T. Pershing, Denver.

"The Tabetic Foot; Its Importance in the Causation of the Ataxia of the Lower Extremities," by Drs. Sidney I. Schwab and Nathaniel Allison, St. Louis (read by Dr. Schwab). Discussed by Drs. Pershing, Punton, Jeliffe, Wolfstein, Putnam, McBride, and Schwab.

"Clinical Reports of Some Cases of Hysteria," by Dr. C. C. Hersman, Pittsburg.

"The Psychopathic Manifestations of the Non-insane Psychoneuroses," by Dr. John Punton, Kansas City. Discussed by Drs. H. A. Tomlinson, St. Peter, Minn.; Smith Ely Jeliffe, New York; H. T. Pershing, Denver, and J. H. McBride, Pasadena.

WEDNESDAY, JULY 13—AFTERNOON.

The meeting was called to order at 2:40 p. m. by the Chairman.

"Public Care of the Insane," by J. M. Barstow, Council Bluffs, Iowa. Discussed by Dr. G. R. Clark, Dearborn, Mich.

"Psychosis of Morphinism," by Dr. T. D. Crothers, Hartford. Discussed by Drs. Punton, Clark, and Crothers.

"Comparison of the Quick and Slow Methods of the Treatment of Morphinism," by Dr. A. J. Pressey, Cleveland. Discussed by Drs. Crothers, Brainard, and Pressey.

"The Psychoses of Heart Disease," by Dr. William House, Portland, Ore.

The Committee on Nominations reported the following nominations, and the respective candidates were, on motion, duly elected: Chairman, Dr. Wharton Sinkler, Philadelphia; Secretary, Dr. David I. Wolfstein, Cincinnati; Executive Committee, Drs. J. H. McBride, Pasadena; H. T. Pershing, Denver, and F. W. Langdon, Cincinnati; Delegate, Dr. J. H. McBride, Los Angeles; Alternate, Dr. David I. Wolfstein, Cincinnati.

"The General Conditions Associated with Insanity; Their Correlation and Certain Deductions," by Dr. H. A. Tomlinson, St. Peter, Minn. Discussed by Drs. Clark, Brainard, McBride, Tomlinson, and House.

Section on Pathology and Physiology.

Tuesday, July 11—Afternoon.

The Section was called to order at 2:00 o'clock by the Chairman, Dr. Winfield S. Hall.

The Chairman read his address, entitled "Pathologic Physiology, a Neglected Field."

"The Freezing Points of Blood and Urine in Pneumonia, with a Description of a New Method," by Dr. F. E. Schmidt, Chicago, was read by Dr. W. A. Bessesen, Chicago.

"Variations in the Ratio of Diameters of the Normal Chest at Different Ages. The Form of the Phthisical Chest," by Dr. W. A. Bessesen, Chicago. Discussion by Dr. S. Woods Hutchinson.

"The Influence of Chronic Passive Congestion and Cirrhosis of the Liver on the Connective Tissues of the Spleen," by Dr. Henry A. Christian, Boston. Discussion by Dr. W. Ophüls, San Francisco.

The Chairman announced that a number of papers had been sent in by their authors who had been, at the last moment, unable to be present. Each one, he said, represents a good deal of research work, and they will undoubtedly be interesting to a large portion of those gathered here.

Dr. C. A. Smith, Seattle, moved that these papers be read. Carried.

The paper of Dr. L. Breisacher, Detroit, Mich., entitled "Minimal Albumin Requirement in Health and Disease," was read by Dr. Henry A. Christian, Boston.

Dr. Brubaker read the paper by Dr. E. L. Whitney, Baltimore, entitled "Errors in the Determination of Free HCl in the Gastric Juice."

Dr. C. R. Krone, of Oakland, was called to the Chair, and Dr. Hall read the paper of Dr. J. C. Hemmeter, Baltimore, entitled "Are the Proteolytic and Milk Curdling Effects of the Gastric Juice Due to One and the Same Enzyme?"

"Mucocele of the Appendix," by Dr. Alfred Stengel, Philadelphia. Discussion by Drs. C. R. Krone, Oakland, Cal.; W. L. Bierring, Iowa City; New, Indianapolis, and Christian, Boston.

Wednesday, July 12—Morning.

The Section was called to order by the Chairman at 9:30 o'clock, and Dr. Krone, of Oakland, was called to the Chair.

The paper of Dr. F. R. Zeit, Chicago, entitled "Morphologic and Histogenetic Characteristics of Endothelial Tumors," was read by Dr. Rosenau, of Washington, D. C.

The paper of Dr. W. B. Cannon, Boston, entitled "Some Observations on Auscultation of the Abdomen," was read by Dr. H. A. Christian, Boston.

"Further Studies on Streptococcus Infection," by Dr. G. F. Ruediger, Chicago. Discussion by Dr. Rosenau.

Dr. H. A. Christian read a paper entitled "The Pathology of Varicella," by Dr. E. E. Tyzzer, Boston.

Dr. Christian read a paper by Mr. John Bryan, Jr., Boston, on "Myoma of the Esophagus."

Dr. Christian read an invitation from the British Columbia Medical Association, which meets July 18-19, at Vancouver, expressing the wish that a large number would attend that meeting.

The Chairman appointed as a nominating committee Dr. Krone, Oakland, Cal., Chairman; Dr. C. A. Smith, Seattle, and Dr. Wynn, Indianapolis.

Dr. Christian suggested the advantages to the Section if the By-Laws could be changed so as to allow members to read papers in more than one Section.

The matter was discussed at length by Drs. Christian, McFarland, Oettinger, Rosenau, and Hall, at the conclusion of which Dr. Oettinger moved the appointment of a committee of three, consisting of the Chairman, Secretary and Delegate (Drs. Hall, Christian and McFarland) to draft a resolution to be acted on tomorrow morning. Carried.

Thursday, July 13—Morning.

The Section was called to order at 9:30 o'clock a. m. by the Chairman.

Dr. Bernard Oettinger, Denver, read a paper entitled "Methemoglobin as a Factor of Conservative Metabolism." Discussion by Dr. Kemp, C[illegible], Ill.

Dr. G. T. K[illegible], C[illegible], Ill., read a paper entitled "The Blood Plate[illegible], [illegible], Physiology and Pathology." Discussion by Drs. Harlow, Boulder, Colo.; Oettinger, Denver; Krone, Oakland, Cal.; Rosenau, Washington, D. C.; Foss, Phoenix, Ariz.

The Secretary read the paper of Dr. Joseph H. Pratt, Boston, entitled "A Clinical Study of the Various Methods Employed of [illegible] the Number of Plates in the Blood." Discussion by [illegible]

[illegible] per of Dr. George H. Weaver, [illegible] s Angina (Vincent's Angina) and Stomatitis." Discussion by Dr. Ophüls.

Dr. F. S. Lee, New York City, read a paper on "Temperature and Muscle Fatigue." Discussion by Dr. Kemp.

The Secretary read a paper by Dr. E. E. Southard, Boston, entitled "A Case of Cholesterin Stones in the Brain."

The Secretary also read "A Study of Brain Infections with the Pneumococcus," also by Dr. Southard. Discussion by Dr. Wynn.

Dr. Frank B. Wynn, Indianapolis, gave an exhibition of apparatus and read a paper on "Pathologic Report on a Case of Plexiform Neurofibroma." Discussed by Dr. Oettinger.

The Secretary read a paper by Dr. Martin H. Fischer, San Francisco, entitled "A Physico-chemical Theory of Fertilization."

Election of Officers.

Dr. Krone, Chairman of the Nominating Committee, reported as follows:

Your committee recommends for election: For Chairman, Dr. Henry A. Christian, Boston; for Secretary, Dr. W. L. Bierring, Iowa City, Iowa; for Delegate, Dr. M. J. Rosenau, Washington, D. C.

The report was, on motion duly made and seconded, accepted and adopted.

Dr. Joseph McFarland announced that the proposed amendment to the by-laws, in order to give the right to read papers before more than one section, had received favorable consideration by the House of Delegates' committees and that favorable action was expected.

Dr. Wynn moved that the Section extend its thanks for the efficient conduct of the Chairman and Secretary and their courteous treatment toward the members of the Section.

Dr. Wynn put the motion and it was carried unanimously.

Marriages

Philip Rovno, M.D., to Miss Julia Stark, both of Philadelphia, June 25.

Louis C. Jacobson, M.D., to Mis Jessie Leone White of Elroy, Wis., May 6.

Chauncey F. Chapman, M.D., Chicago, to Miss Cora Kennard Pitcher, July 19.

J. M. Sokol, M.D., Spencer, Iowa, to Miss Winifred Dando of Chatham, Ont., June 28.

Philip Leon Bereano, M.D., to Miss Clara Dancis, both of New York City, July 16.

Albert Moore Barrett, M.D., Boston, to Miss Eliza Bowman of Clinton, Iowa, July 8.

Simeon L. Carson, M.D., Lower Brule, S. D., to Miss Carol H. Clark of Detroit, Mich.

Ernest Leslie Ward, M.D., to Miss Adelaide Leah Codogan, both of Osceola, Pa., June 28.

Paul H. Tetreau, M.D., Larose, La., to Mrs. May Lambert Harang, at New Orleans, June 27.

Sheridan E. Gardner, M.D., to Miss Blanche L. Irish, both of Mount Pleasant, Mich., June 24.

Gerhard Hutchison Cocks, M.D., to Miss Maud Eleanor Knapp, both of New York City, June 29.

Washington B. Grove, M.D., surgeon U. S. Navy, to Miss Elizabeth Thompson, at Summit Point, W. Va., July 8.

Deaths

Oscar B. Harriman, M.D. Dartmouth Medical School, Hanover, N. H., 1861; first president of the Franklin County (Iowa) Medical Society; member of the Iowa State Medical Society, the Austin Flint Medical Society and State and National Associations of Railway Surgeons; a member of the State Board of Medical Examiners; coroner of Franklin County for 6 years; county physician for 10 years, and postmaster from 1885 to 1889, died July 9 from cerebral hemorrhage, after a prolonged period of ill health, aged 68.

Thomas G. Horn, M.D. St. Louis Medical College, 1868, a member of the American Medical Association; a pioneer physician of Colorado Springs, an earnest worker for good government, and a ready helper in all philanthropic work; ex-president of the Colorado State Medical Society; member of the El Paso County Medical Society; for 8 years a trustee of Denver University, died at his home in Colorado Springs from sciatica, July 14, aged 72.

Albert L. Macon, M.D. Medical Department of the University of Tennessee, Nashville, 1893, a member of the American Medical Association, and one of the most prominent young practitioners of Clarksville, Tenn., died at his home in that city, July 11, from typhoid fever, after a long illness, aged 32.

David P. Middleton, M.D. Kentucky School of Medicine, Louisville, 1860, surgeon of the Fourth Kentucky Volunteer Cavalry during the Civil War; several times a member of the Louisville Board of Education, died at his home in Louisville, from acute dysentery, July 4, aged 74.

Gustavus Hoepfner, M.D. University of Kiel, Germany, 1862, who has been suffering from heart trouble for a long time, died suddenly at his home in Davenport, Iowa, July 12, aged 69. The physicians of the city at a special meeting called July 13 adopted resolutions of sympathy.

Henry Mortimer Anderson, M.D. College of Physicians and Surgeons in the city of New York, for more than half a century a resident of Rome, Ga.; a surgeon in the Confederate service during the Civil War, died at the home of his daughter in Raleigh, N. C., June 26, aged 81.

Samuel W. Leeman, M.D. College of Physicians and Surgeons, St. Louis, 1895, professor of principles and practice of medicine in Baylor University College of Medicine, Dallas; a member of the state, district and county medical societies, committed suicide in his office in Dallas, Texas, by shooting himself through the head July 5.

William James Cox, M.D. Southern Medical College, Atlanta, Ga., 1892, Barnesville, Ga., a member of the American Medical Association, Medical Association of Georgia, and Jasper County Medical Society, died at a hotel in Madison, Ga., July 3, from an overdose of morphin.

Thomas G. Johnston, M.D. McGill University Medical Department, Montreal, 1871, of Sarnia; member of Parliament for West Lambton, twice mayor of Sarnia, died from septicemia following erysipelas, at Ottawa, Ont., July 4, after an illness of one month, aged 56.

Charles A. Carroll, M.D. University of Maryland School of Medicine, Baltimore, 1864, one of the distinguished family of that name, died suddenly in his room at the Church Home and Infirmary in Baltimore, July 14, from heart disease, aged 60.

James T. Edwards, M.D. New York University, New York City, 1857; assistant surgeon Ninety-seventh Ohio Volunteer Infantry during the Civil War, died at his home in Coshocton County, from general paralysis, after an illness of six weeks, aged 75.

John P. Sterrett, M.D. University of Virginia Medical Department, Charlottesville, 1843, died at his home in Pittsburg, Pa., July 18, aged 79. Three weeks before he had injured his knee and had been confined to bed on account of the accident.

William Kennedy Carroll, M.D. University of Maryland School of Medicine, Baltimore, 1873, died at Arrow, Colorado, July 18, from tuberculosis, aged 53. His remains were interred at Queenstown, Md., where he had resided for many years.

Eugene E. Holroyd, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1878, committed suicide at Nilwood, Ill., by taking arsenic, carbolic acid and strychnin, July 10, aged 57.

Westwood James Baker, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1873, of Fresno, Cal., died at his old home, Courtland, Ala., July 3, after an illness of two years, from Bright's disease, aged 56.

George F. Fanning, M.D. Baltimore Hospital Medical College, New York City, 1877, died at his home in Port Jefferson, Suffolk County, L. I., July 6, after an operation for a malignant tumor of the stomach, aged 54.

Sydney Jones, M.D. McGill University Medical Department, Montreal, 1901, of Cleveland, Ohio, died at Lakeside Hospital in that city July 12, after an operation on the glands of the neck, after a long illness, aged 30.

John M. McDonald, M.D. Western Pennsylvania Medical College, Pittsburg, 1897, a member of the state, county and local medical societies, died at his home in Pittsburg, July 6, after a lingering illness, aged 29.

Alfred C. Blevins, M.D. University of Nashville Medical Department, 1861, surgeon of the Third Tennessee Infantry, C. S. A., during the Civil War, died at his home in Dayton, Tenn., July 25, aged 75.

Robert Dunn McIlvaine, M.D. University of Virginia, Medical Department, Charlottsville, 1885, died at his home in Petersburg, Va., July 13, from cerebral hemorrhage after an illness of four days, aged 41.

William O'N. Mendenhall, M.D. Rush Medical College, Chicago, 1870, sometime president of the Illinois State Medical Society, died at his home in Richmond, Ind., July 17, after a long illness, aged 71.

George B. Lockwood, M.D. Jefferson Medical College, Philadelphia, 1897, assistant physician at the Medfield (Mass) Insane Asylum, died July 14 at Albuquerque, N. M., after a long illness, aged 30.

James F. Graves, M.D. St. Louis Medical College, 1878, local surgeon of the Wabash Railway at Montgomery, Mo., shot himself through the heart at his residence July 4, and died instantly, aged 58.

Abraham Miller, M.D. Rush Medical College, Chicago, 1868, a retired practitioner of Bloomington, Ind., died at his home in that city, July 11, from cerebral hemorrhage, after a short illness, aged 71.

Mercer Stillwell Davie, M.D. Jefferson Medical College, Philadelphia, 1869, one of the organizers of the Dale County (Ala.) Medical Society, died recently at his home in Dotham (Ala.)

Earl Mathewson, M.D. College of Physicians and Surgeons in the City of New York, 1879, for many years medical examiner of Durham, Conn., died at his home in that town, July 6, aged 55.

Charles W. Crary, M.D. Jefferson Medical College, Philadelphia, 1871, surgeon-major in the Civil War, died at his home in Chicago, July 13, from cerebro-spinal paralysis, after a long illness, aged 70.

William P. Ewing, M.D. Jefferson Medical College, Philadelphia, 1846; formerly president of the West Virginia State Board of Health, died at his home in Charleston, W. Va., July 19, aged 83.

Horace Lathrop, M.D. Jefferson Medical College, Philadelphia, 1852, died at his home in Cooperstown, N. Y., July 11, from cerebral hemorrhage, after an invalidism of twelve years, aged 80.

Henry Lanciaux, M.D. University of the Victoria College, Coburg, Ont., 1890, died at his home in Manville, R. I., June 30, from consumption after an illness of three months, aged 41.

B. B. Johns, M.D. (years of practice, Indiana), for many years a member of the state legislature, died at his home in Gentryville, Ind., July 7, after a prolonged illness, aged 65.

Charles Lowry, M.D. Pennsylvania, 1863, for two years secretary of the Kansas State Board of Health, died at his home in Topeka, July 11, from kidney disease, aged 64.

Felix A. Gillespie, M.D. Medical College of Alabama, 1889, mayor of Hanceville, Ala., died at his home in that city, July 17, from typhoid fever, after an illness of four weeks.

George J. Ahren, M.D. New York University, New York City, 1895, formerly house surgeon at St. Francis' Hospital, New York City, died in that institution July 4, aged 34.

Lemuel H. Hammond, M.D. Albany Medical College, 1858, of Worcester, Mass., died at the home of his daughter in Waterbury, Conn., after a short illness, aged 69.

William H. Lyne, M.D. Medical College of Virginia, Richmond, died in the Memorial Hospital, Richmond, July 16, from complications following appendicitis, aged 32.

Charles Thomas Harris, M.D. University of Maryland School of Medicine, Baltimore, 1904, of Bethel Hill, N. C., died at Roxboro, N. C., July 6, from typhoid fever.

James A. McKinney, M.D. Rush Medical College, Chicago, 1895, died at his home in Grand Valley, Colo., July 7, from heart disease with complications, aged 35.

Clarence G. Keefer, M.D. Baltimore University School of Medicine, 1892, of Baltimore, died at the City Hospital, Baltimore, July 11, after a long illness.

James D. Burch, M.D. Kentucky School of Medicine, Louisville, 1864, died suddenly at his home in Amora, Texas, June 25, from heart disease, aged 67.

Wilber Kelley, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1882, died from cerebral hemorrhage after an illness of 12 hours, aged 47.

John A. McGee, M.D. University of Louisville Medical Department, 1876, died at his home in Rice, Texas, July 1, after a lingering illness.

Revaux O. Dieuis, M.D. University Medical College of Kansas City, Kan., 1897, was found dead in his room at Terrell, Tex., July 6, aged 29.

Victor G. R. J. Rehm, M.D. Jefferson Medical College, Philadelphia, 1884, died at his home in Philadelphia, from nephritis, July 22, aged 47.

Daniel Howes, M.D. Jefferson Medical College, Philadelphia, 1864, died at his home in South Lyon, Mich., July 4, after a brief illness.

Anna Frances Donoghue, M.D. New York, 1904, died suddenly at her home in New York, July 19, from heart disease, aged 32.

C. Wright Lindsey, M.D. Medical Department Arkansas University, Little Rock, 1900, died recently and was buried July 14.

Edwin D. Simpson, M.D. College of Physicians and Surgeons, New York, 1874, died at his home in New York City, June 23, aged 50.

Paul Hauser, M.D. Griefswald, Germany, 1872, died at his home in Brooklyn, N. Y., July 9, from senile debility, aged 71.

J. Harrison Hartwell, M.D. Jefferson Medical College, Philadelphia, died at his home in Philadelphia, June 25, aged 77.

Sarah A. Marshall, M.D. Chicago, 1883, of Elgin, Ill., died in Oak Park, Ill., July 14, after a long illness, aged 61.

John T. Keats, M.D., died at Baltimore June 19, aged 70.

Abroad.

Herman Nothnagel, M.D., the great Vienna clinician, instructor and investigator, died suddenly, July 6, from the effects of arteriosclerosis of the heart, aged 64. He had attended to his daily round of professional duties, not returning home from his last call till half past ten, and the heart failure occurred soon after. He was born in Brandenburg and became assistant to Leyden in 1865, then assumed a professorship at Freiburg and later at Jena and was called in 1882 to the chair of medicine at Vienna which he made world famous by his incumbency. He has been a member of the Austrian House of Lords since 1902, and has had all kinds of honors heaped on him. Many of his works are as well known in this country as abroad, especially his studies on the physiology and pathology of the nervous system, on epilepsy, and on intestinal and peritoneal affections. His saying that "only a good man can be a good physician" is one of the axioms of the profession nowadays, and well illustrates his own view of life.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

PROFESSIONS ENTITLED TO GRATUITIOUS SERVICES.

Arkansaw Subscriber asks what professions are generally considered entitled to treatment without charge.

The Principles of Ethics say that gratuitous services should be limited to practicing physicians, their immediate family dependents, persons in indigent circumstances, and certain public duties (sanitation and public hygiene). Dentists, druggists, nurses, etc., are usually given a discount by physicians who live in the same neighborhood, and they usually reciprocate. When members of these related professions are given or give *free* service, it is usually not because of the fact that their professions are related, but because of previous reciprocal relations, mutual understandings or close business relations; for example, between the physician and the pharmacist over whose store the former has his office, between the dentist and the physician to whom he usually sends his patients who need systemic treatment, etc. The nurse, however, is not expected to give free services, because her work usually takes all her time, while that of the physician is one item in a day's work. Similar questions have been answered in The Journal, March 5, 1904, p. 662; March 26, 1904, p. 844; Feb. 4, 1905, p. 405.

RESEARCH BY THE COUNTRY PRACTITIONER.

Wardsville, Ont., July 18, 1905.

To the Editor:—I write to ask you to give some of the problems that might be attacked by a general practitioner of medicine in the country. It is interesting work to read and to apply the works of others. I think it well to do some original investigation ourselves, and with a little direction our spare time might be put to good use. W. H. Rennie.

Answer.—It is exceedingly difficult, if not impossible, to give advice of real value in regard to problems that may be attacked by physicians in *general country practice* without knowing something of the qualifications, the equipment and the tastes of the prospective investigator. At the present time progress in research as ordinarily understood means, at least as a general rule, expertness to a reasonable degree in some one special method of investigation. Roughly, the methods now in vogue in medical research may be divided into four overlapping groups, to-wit, chemical, bacteriologic, anatomic (gross and microscopic), and, last but not least, clinical. Consequently, in order to suggest actual problems for independent work, it would be necessary in the individual case to know within which one of these main groups the work would have to be done. We would, therefore, make the general suggestion that persons who, like the writer of this request, feel interested in original work, place themselves in direct communication with some known investigator and teacher in the field in which each person feels that his own work must lie by virtue of the special circumstances in his case. In the case of the majority of the general practitioners it is most likely that the kind of investigative work nearest at hand would come under the general heading of *clinical*. There is no lack of interesting and valuable material for clinical study. Unusual, obscure, remarkable instances of disease occur everywhere. Circumscribed outbreaks of infectious diseases under conditions that are relatively simple and transparent always merit careful study with special reference to peculiar features as regards either manifestation or causation. Unusual manifestations of familiar diseases often invite critical observation. The complete and careful study of series or groups of cases always proves instructive and valuable. Now it is to be noted that at the present time clinical observation in order to be complete and reliable, in many cases requires the use of chemical, bacteriologic and anatomic methods. Hence every physician who is progressive in his tendencies, keen in method, and determined to get to the bottom of the many knotty problems presented by his cases, must have *some kind of clinical laboratory*, the more complete the better, and the more familiar with clinical laboratory technic the more efficient will be his work, other things being equal. It would seem that many practitioners might employ their spare time to good advantage for a period at least in perfecting themselves in clinical laboratory methods so that they may feel that their own results merit confidence. For many a thorough preliminary course under competent teachers would be desirable as a basis for further work. We do not hereby imply that old-fashioned clinical observation and reflection should be abandoned. Far from it. They remain of the same fundamental value as hertofore; both are to be extended, sharpened and controlled, however, by physical and chemical aids. It must be clear that to-day diagnosis, for instance, often rests on bacteriologic and chemical factors, of the existence of which our forefathers did not dream. Now we believe that it is not an unsurmountable task for general practitioners to master modern methods of clinical observation to such an extent that they may undertake investigative work in connection with their own material. This important subject can not be pursued any further for the present. Whatever the method, whatever the subject, the one thing always necessary to accomplish anything is work.

State Boards of Registration

COMING EXAMINATIONS.

Nebraska State Board of Health, State House, Lincoln, Neb., August 9-10. Secretary, Geo. H. Brash, Beatrice.

Corrections in Minnesota June Examination.—In The Journal July 15, p. 209, we stated that the general average attained by all graduates of the University of Minnesota who passed, was 79; this should have been 81.6. The average given for graduates of Hamline University who passed was given as 82.3 and should have been 82.03. These deductions were not made by the secretary of the Minnesota board and he should not be blamed for the error.

New Jersey June Report.—Dr. E. L. B. Godfrey, secretary of the State Board of Medical Examiners of New Jersey, reports the written examination held at Trenton, June 20-21, 1905. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 72' of whom 55 passed and 17 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
University of Michigan	(1905)	82.8
Woman's Med. Coll. of Pennsylvania	(1905)	76.8
University of Pennsylvania (1885) 87; (1895) 77.8; (1905) 86, 76.2, 89.6; (1901) 85.2; (1902) 82.8..		
Medico-Chirurgical Coll. Philadelphia (1905) 76.5, 83.8, 81.6, 83.2, 77.8, 89.3, 87.7; (1901) 86.8; (1904) 80.1; (1897) 79.2.		
Jefferson Med. Coll. (1901) 86.4; (1904) 82.1, 87.3, 84.1; (1905) 83.6, 75.1, 83.3, 85.4, 78.3, 77.6, 78.7, 75.8.		
Harvard University (1893) 83;	(1902)	79.6
Columbia University (1904) 80.2; (1905) 78.3, 82.8, 86.2, 91.3, 86.6, 82.3.		
College of P. and S., Baltimore (1905) 78.1, 82.3, 79.4, 79.7, 81		
Baltimore Med. Coll. (190) 75.5;	(1904)	76.3
Baltimore Med. Coll. (1905) 75.5;	(1904)	76.3
Cornell University	(1905)	87.2
Hahnemann Med. Coll. Philadelphia (1905) 78.5,, 85.1; (1904) 75.3, 88.5.		
University of Naples	(1898)	62*
Long Island College Hospital	(1900)	80.1
FAILED.		
Medico-Chirurgical Coll., Philadelphia (1905) 73.1, 73; (1903) 71.9.		
[illegible] unich	(1904)	65.1
[illegible] (1904) 71.7, 66.8, 71.3, 60.3		
[illegible]	(1905) 68.5,	65.3
University of Louisville	(1905)	68.8
Leonard Med. Coll. N. C.	(1905)	71.4
Hahnemann Med. Coll., Philadelphia		73.8
College of P. and S., Boston	(1904)	72.1
Long Island College Hospital (1905) 73.6;	(1894)	56.6
Hahnemann Med. Coll., Chicago	(1879)	71.2

The general average attained by all representatives of the Medico-Chirurgical College who passed was 82.6; of the University of Pennsylvania, 83.5; of Jefferson Medical College, 81.4; of Columbia University, 83.5.

* Second examination.

Delaware June Report.—Dr. P. W. Tomlinson, secretary of the State Board of Medical Examiners of Delaware, representing the President and Fellows of the Medical Society of Delaware, reports the written examination held at Dover, June 20-22, 1905. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The number of applicants examined was 20, of whom 14 passed and 6 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Baltimore University	(1902)	77*
Medico-Chirurgical Coll., Philadelphia	(1904) 81; (1905)	80, 84
Baltimore Med. Coll.	(1904) 81.3; (1905)	76.2, 77.1, 77.6
Jefferson Med. Coll.	(1905)	84.3, 85.1, 82.1
University of Pennsylvania	(1867) 82.7; (1905)	90.5
Western Pennsylvania Med. Coll.	(1897)	92.3

FAILED.

College.	Year Grad.	Per Cent.
Baltimore University	(1902) 60;** (1904) 49.8;† (1905)	58, 72.4, 58.3.
Maryland Med. Coll.	(1905)	57.9‡

* Has continued studies.

** Failed in examination in 1904.

† Intoxicated during examination.

‡ Caught with a book by one examiner, who gave him 0 in two subjects.

The State Medical Examining Board, representing the Homeopathic Medical Society of Delaware State and Peninsula, held a written examination at Wilmington, June 20-22, 1905. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. Four candidates were examined, all of whom passed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Southern Homeo. Med. Coll., Baltimore	(1905)	84.1, 94.2
Hahnemann Med. Coll., Philadelphia	(1905)	89.3, 87.2

Utah July Report.—Dr. R. W. Fisher, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, July 3-5, 1905. The number of subjects examined in was 20; total number of questions asked, 86; percentage required to pass, 75. The total number of candidates examined was 17, of whom 12 passed and 5 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Coll. of Med. and Surg., Chicago	(1903)	78*
Rush Med. Coll., Chicago	(1905) 86, 88; (1904)	81
American Med. Coll., St. Louis	(1905)	80*
American Med. Coll., St. Louis	(1905)	80
Washington University	(1890)	77
College of P. and S., Chicago	(1905)	85, 80
Northwestern University	(1905)	84, 79
Royal Coll. of Phys., London	(1900)	79

FAILED.

College.	Year Grad.	Per Cent.
College of P. and S., Chicago	(1894)	53
Marion Sims-Beaumont Med. Coll.	(1905)	69
Western Reserve University	(1888)	69
University of Kentucky	(1903)	73
University of Denver	(1884)	72

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending July 22, 1905:

Lyster, W. J. L., asst.-surgeon, granted ten days' leave of absence.

Palmer, Fred W., asst.-surgeon, relieved from duty at Jefferson Barracks, Mo., and ordered to General Hospital, Fort Bayard, N. M., for duty.

Borden, Wm. C., surgeon, ordered to proceed from this city to Boston and Albany,, via Philadelphia, on business pertaining to construction of newer hospitals.

Hallock, H. M., surgeon, promoted major and surgeon, to rank from July 1, 1905.

Davidson, W. T., asst.-surgeon, ordered to report to Lieut.-Col. George H. Torney, deputy-surgeon-general, on Aug. 1, 1905, at Army General Hospital, Presidio of San Francisco, Cal., for examination for promotion.

Harris, J. R., asst.-surgeon, reports on thirty days' leave of absence from Philippine Islands.

Godfrey, G. C. M., asst.-surgeon, relieved from further station in New York City, N. Y., and ordered to Fort McPherson, Ga., for duty.

Banister, Wm. B., surgeon, left Jefferson Barracks, Mo., with recruits to Fort Assinniboine, Mont.

Ames, Roger P., contract surgeon, relieved from duty at Fort McIntosh, Texas, and ordered at expiration of present leave of absence to duty at Fort DeSoto, Fla.

Davis, Oscar F., contract surgeon, relieved from duty at Fort DeSoto, Fla., and ordered to duty at Jefferson Barracks, Mo.

Hicks, John R., contract surgeon, granted leave of absence, to include July 25.

Watkins, Victor E., contract surgeon, ordered home, Washington, D. C., for annulment of contract, and granted leave of absence for two months.

Foster, Douglas E., dental surgeon, relieved from duty at Fort Jay, N. Y., and ordered to his home for annulment of contract. Granted leave of absence for twenty days.

Jones, George H., contract surgeon, left Fort Fremont, S. C., on leave of absence for three months, fifteen days.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending July 22, 1905:

Braisted, W. C., surgeon, detached from special duty in connection with the Russo-Japanese war and ordered to the Navy Department.

Marshall, E. R., and Bunger, C. B., asst.-surgeons, appointed assistant surgeon, with rank of lieutenant (junior grade), from July 7, 1905.

Mears, J. B., and F. H. Brooks, asst.-surgeons, appointed assistant surgeons, with rank of lieutenant (junior grade) from July 14, 1905.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissiored and non-commissioned officers of the Public Health and Marine-Hospital service for the seven days ending July 19, 1905:

Sawtelle, H. W., surgeon, to report at Washington, D. C.

Mead, F. W., surgeon, granted leave of absence for one month, from August 1.

Blue, Rupert, P. A. surgeon, to proceed to Ocean City, Md., Chincoteague, Wachapreague and Cape Charles City, for the purpose of making a physical examination of keepers and surfmen of the Life Saving Service.

Cofer, L. E., P. A. surgeon, granted leave of absence for two months from September 9.

Foster, M. H., P. A. surgeon, granted extension of leave of absence for ten days, from July 11.

Richardson, T. F., P. A. surgeon, to proceed to Brunswick quarantine and assume temporary charge during absence on leave of Assistant Surgeon J. T. Burkhalter.

Goldberger, Jos., P. A. surgeon, to proceed to Atlantic City, N. J., for the purpose of making a physical examination of keepers and surfmen of the Life Saving service.

Berry, T. D., P. A. surgeon, to proceed to Point Pleasant and Tuckerton, N. J., *for the purpose* of making a physical examination of keepers and surfmen of the Life Saving Service.

Burkhalter, J. T., assistant surgeon, granted leave of absence, on account of sickness, for one month or so much thereof as may be necessary, effective on date of arrival of relief.

Ebert, H. G., assistant surgeon, granted leave of absence for two months, from August 4.

Adams, F. B., acting assistant surgeon, granted leave of absence for seven days.

Bean, L. C., acting assistant surgeon, granted extension of leave for five days, from July 21.

Gruver, F., acting assistant surgeon, granted leave of absence for thirty days, from August 15.

McConnell, A. P., acting assistant surgeon, granted leave of absence for six days, from July 20.

Savage, W. L., acting assistant surgeon, granted leave of absence for thirty days, from August 7.

Welden, W. A., acting assistant surgeon, granted leave of absence for thirty days, from August 15.

Williamson, S. D., acting asst.-surgeon, granted leave of absence for eight days, from July 22.

Carlton, G. G., pharmacist, granted leave of absence for twenty-nine days, from July 24.

Hall, L. P., pharmacist, department letter of June 23, 1905, granting leave of absence for thirty days, from July 10, amended to read thirty days, from August 4.

Keen, W. H., pharmacist, granted leave of absence for twenty-four days, from July 18.

PROMOTIONS.

Long, J. D., asst.-surgeon, commissioned (recess) as passed assistant surgeon, to rank as such from April 14, 1905.

Francis, Edward, asst.-surgeon, commissioned (recess) as P. A. surgeon, to rank as such from June 23, 1905.

McCoy, G. W., asst.-surgeon, commissioned (recess) as P. A. surgeon, to rank as such from June 27, 1905.

Warren, B. S., asst.-surgeon, commissioned (recess) as P. A. surgeon, to rank as such from June 25, 1905.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported *to* the Surgeon-General, Public Health and Marine-Hospital Service, during the period from June 30, to July 15, 1905:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, July 1-8, 3 cases.

Florida: Jacksonville, July 1-8, 1 case.

Illinois: Chicago, July 1-8, 15 cases, 4 deaths; Danville, June 27-July 10, 3 cases.

Indiana: Southbend, June 24-July 8, 3 cases, 1 death.

Louisiana, New Orleans, June 24-July 8, 7 cases (1 imported).

Michigan, Grand Rapids, July 1-8, 7 cases, 1 death.

Minnesota: Nineteen counties, June 12-19, 61 cases; ten counties, June 19-26, 50 cases.

Missouri: St. Louis, June 24-July 1, 1 case.

Nebraska: Omaha, July 1-8, 2 cases.

New York: New York, June 24-July 1, 1 case; Rome, July 1-8, 1 case.

North Dakota, Nine counties, May 1-31, 55 cases.

Pennsylvania: York, July 1-8, 1 case.

South Carolina, Greenville, July 24-July 1, 1 death.
Tennessee: Memphis, July 1-8, 1 case.
Wisconsin: Appleton, July 1-8, 2 cases; La Crosse, June 24-July 1, 1 case; Milwaukee, June 24-July 8, 17 cases.

SMALLPOX—FOREIGN

Africa: Cape Colony, May 27-June 3, 2 cases.
Belgium: Brussels, June 10-17, 1 death.
Brazil: Bahia, May 13-27, 14 cases; Rio de Janeiro, May 28-June 11, 19 cases, 9 deaths.
China: Hongkong, April 30-May 6, 3 cases.
Colombia, Cartagena, June 10-17, 1 case, 1 death.
France: Paris, June 10-24, 31 cases, 4 deaths.
Great Britain: Birmingham, June 17-24, 1 case; Bristol, 3 cases; London, June 10-24, 4 cases; Sheffield, June 17-24, 1 case.
India: Calcutta, May 27 June 3, 2 deaths; Madras, 2 deaths.
Italy: Catania, June 15-22, 4 deaths; Messina, June 17-24, 3 cases.
Mexico: City of Mexico, June 17-24, 15 cases, 9 deaths.
Russia: Odessa, June 10-17, 13 cases, 3 deaths; St. Petersburg, June 3-17, 14 cases, 3 deaths.
West Indies: Grenada, June 1-15, 4 cases.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, May 28-June 11, 85 cases, 34 deaths.
Ecuador, Guayaquil, June 6-13, 4 cases.
Guatemala: Livingston, June 21-July 6, 12 cases, 5 deaths.
Mexico: Tehuantepec, June 25-July 1, 1 case, 1 death; Tierra Blanca, June 18-July 1, 3 cases, 1 death; Vera Cruz, July 11, 1 case.
Panama: Colon, June 23-28, 4 cases, 1 death; Panama, June 23-28, 6 cases, 1 death; Paraiso, June 23-28, 1 case.

CHOLERA—FOREIGN.

India: Calcutta, May 27-June 3, 9 deaths.

PLAGUE—FOREIGN.

Africa: East London: May 20-27, 3 cases, 1 death; King Williams Town, 1 case; Queenstown, 3 cases, 1 death.
Arabia: Aden, June 2-9, 1 death.
Brazil: Rio de Janeiro, June 4-11, 1 case.
China: Hongkong, April 30-May 6, 8 cases, 7 deaths.
India: Calcutta, May 27-June 3, 84 deaths; Madras, May 27-June 2, 1 death.
Peru: Payta, June 14, 2 cases, 1 death.

Society Proceedings

AMERICAN SURGICAL ASSOCIATION.

Twenty-sixth Annual Meeting, held at San Francisco, July 5-7, 1905.

Concluded from page 254.

The President, Dr. George Ben Johnston, in the chair.

End Results in Surgery of the Kidney.

Dr. Albert Vander Veer, Albany, N. Y., read a paper based on a review of 123 operations. There were 23 cases of movable or floating kidney, exclusive of those in which excision of the capsule for neuralgia, examination for stone, and decapsulation for Bright's disease is done. Nineteen of these cases occurred in women, about two-thirds of whom were married, the lesion being on the right side. There were 4 males, the lesion also occurring on the right side and the entire number recovering. One patient required removal of the kidney four years after for abscess of the pelvis and stone; the operation was followed by a good recovery. Dr. Vander Veer next presented a series of 24 cases of nephrotomies in which there was a surgical lesion of the kidney, grouped under the heading of pyelitis, pyonephrosis, pyonephritis, or ascending pyelonephrosis. The series was divided as follows: Male, right side, 2 recovered, 1 died. Male, left side, 6 recovered. Nine of these patients finally required nephrectomy, one case resulting in death. Of the remaining 15 patients all made good recoveries except one who, after a period of four years, had a slight sinus, not deep, no pus, patient in excellent condition. The other patient recovered from the kidney complication, but developed a pelvic abscess which is still draining and she is gradually losing ground. In the cases of nephrectomies for hydronephrosis there were 8, as follows: Male, right side, 2 recovered. Female, right side, 3 recovered. Female, left side, 2 recovered, 1 died. He cited 2 cases of hydronephrosis in young women who were entirely cured by simple aspiration. Of decapsulation of the kidney for nephritis there were 2 cases ending in recovery.

DISCUSSION.

Dr. William J. Mayo, Rochester, Minn., asked Dr. Vander Veer whether he removes the ureter or considers it necessary to remove it in cases of tuberculosis of the kidney. Also whether any of the cases in which nephrotomy for tuberculosis of the kidney was performed have been followed by permanently good results. Recently Dr. Mayo has gone over the histories of some 36 nephrectomies for tuberculosis of the kidney and has found that a large number of people who are supposed to have tuberculosis of both kidneys in the early stage have only one kidney involved. Careful examination has shown in the majority of these cases, according to his recent experience that the tuberculosis is confined to one kidney. He thinks that a large majority of cases of tuberculosis of the kidney are one-sided to start with; that his experience, gained largely by postmortem examinations, is that the second kidney becomes involved at the time of death, and that, therefore, he has postmortem rather than living evidence of the fact that in the early stages the percentage of cases in which tuberculosis of the kidney is bilateral is small.

Dr. N. B. Carson, St. Louis, Mo., mentioned a case in which a diagnosis of floating kidney was made by several good surgeons, and he operated with the intention of fixing the kidney. He found the kidney slightly movable, but not floating. Later an eminent surgeon said the case was one of floating kidney, even after he told the surgeon that he had already fixed the kidney. Later he operated again and instead of a floating kidney found a floating right lobe of the liver. The gall bladder was enlarged to the size of a kidney. This was fixed to the liver and contained a number of stones. This floating lobe was removed and patient made a good recovery.

Dr. Archibald McLaren, St. Paul, Minn., mentioned the ease with which a kidney can be removed after resecting the twelfth rib. He said that he got this idea from Dr. Mayo. He tried this procedure in a recent case and found he could do the operation more easily, although he opened the pleura, which was readily plugged with iodoform gauze.

Dr. Vander Veer said, in reply to Dr. Mayo, that the tuberculosis was confined to one kidney in his cases, and that he has no record of bilateral kidney tuberculosis. In the first case in which he operated he did not remove the ureter, and in one case he had to do a secondary operation on account of relapse. He has seen an almost exact duplicate of Dr. Carson's case in that there was a sarcoma which involved the gall bladder and right lobe of the liver.

Non-Parasitic Cysts of the Spleen.

Dr. Charles A. Powers, Denver, Colo., stated that this subject has a twofold origin: 1, the few and comparatively recent clinical reports; 2, the somewhat more numerous accidental postmortem findings. In September, 1895, a young man aged 18, who presented a large right-sided abdominal cyst, was referred to him. The mass was of four years' growth. There had been a gradual loss of flesh and strength, anorexia, headache and general pressure symptoms. Fluctuation was plain. The diagnosis of splenic cyst seemed positive. A free incision was made over the prominent part of the tumor, the walls of which were found to be about one-half inch thick, semi-cartilaginous and solidly adherent to all the adjacent structures. Extirpation seemed impossible. Later autopsy findings confirmed this. The single cyst held several liters. A posterior incision was made with through drainage. The walls of the cyst did not collapse and the patient died of septic absorption from the cyst wall on the twelfth day. The anatomic diagnosis was hemorrhagic cyst of the spleen. From the autopsy findings Dr. Powers could not see how the cyst could have been successfully extirpated. He presented a brief analysis of 32 tabulated cases. In considering the treatment he spoke of puncture, incision and injection, incision and drainage, resection of cyst and splenectomy.

Status Lymphaticus and the Ductless Glands.

Dr. Roswell Park, Buffalo, N. Y., defined the term status lymphaticus and stated that the reason for bringing the subject before a body of surgeons is because the condition itself has so much to do with the question of toleration of anesthetics, and the matter of repair of wounds, that it really is one of exceeding importance. Not a few cases of sudden death during and after operation are to be explained by the abnormalities constituting this condition. These have usually been attributed to the anesthetic or to the anesthetist, and it may be that had the latter appreciated all the dangers offered by the condition he would have guarded his anesthetic or perhaps abstained from giving it. The anesthetist is not always to blame because he is often called in without previous knowledge of the patient, it being really the function of the medical attendant carefully to study the case and to determine its peculiarities. Lymphoid tissue throughout the body seems to increase as the thymus normally disappears. In infantile marasmus the thymus has usually completely and permanently disappeared, its condition being a fair index as to general nutrition. It is hypertrophy rather than atrophy of the thymus which most interests the surgeon, since those individuals who die suddenly and unexpectedly usually have an enlarged thymus. There certainly exists strange relationships between the pituitary body, the thymus, the thyroid, the coccygeal body, the testes, the ovaries and perhaps the bone marrow. In this list the recent researches relative to the parathyroids should also be included. A clearer recognition of the function of the latter seems to have changed the whole aspect in which we should regard Graves' disease, making it quite probable that this condition is due rather to atrophy of the parathyroids than to excess of the thyroid or of its secretion. In the ordinary forms of cystic goiter, in which thyroid secretion is not increased, the symptoms of Graves' disease are lacking. It is usually after removal of the thyroid proper that the opposite symptoms of exophthalmic goiter appear—i. e., myxedema and cachexia, while when the parathyroids are taken away the peculiar symptoms of exophthalmic goiter appear. Status lymphaticus apparently has more to do with the thymus than with any other isolated organ. Thymus extract produces in animals a fall of blood pressure with acceleration of the heart, and, in fatal doses, collapse. Thymus enlargement may cause death by pressure on important structures, even distinct from the trachea. Thymic asthma, a condition known for some time, is one in which death sometimes occurs most unexpectedly and quickly. In these cases not only is the thymus enlarged, but there is a general hyperplasia of the lymphatic tissue with enlargement of the lymph nodes and of the spleen. The relations between status lymphaticus and rickets are frequent and pronounced. Nearly all cases of the former display the ordinary clinical evidences of the latter. The participation of the lymphatic system is most casually apparent in the involvement of the faucial, laryngeal and lingual tonsils, i. e., the so-called adenoids of the throat specialists. It is notable that it is in these cases that death most often occurs during or after anesthesia.

Thymic asthma, Dr. Park stated, is practically the same thing as laryngismus stridulus. The occurrence of this in children ought always to serve as a warning as well as an indication for careful study and treatment. Should chloroform be given to such a patient inadvertently or unnecessarily, the agent will not be nearly so responsible for the death as the practitioner who employs it. The condition is to be recognized by the ordinary evidences of rickets which are usually present, by generalized enlargement of the lymph nodes, by the presence of adenoids in the nasopharynx, by a history of laryngismus stridulus or of special liability to spasm of the glottis, by perceptible enlargement of the thymus or by notable enlargement of the thyroid or spleen. In the young these conditions simulate cretinism. Such a clinical picture should serve as a warning and should make one abstain from the use of anesthetics unless absolutely necessary, while it should also prompt carefully directed treatment. This treatment should consist in careful attention to elimination, as well as to nutrition, while thymus or pituitary extract should be administered internally, as well as the glycerophosphates or some similar tonic. If it should be necessary to clear out the nasopharynx in such a case the parts should be first desensitized by cocain, to which a little adrenalin may be added, even previous to beginning anesthesia. If the patient is known to be subject to glottic spasm, the surgeon should be prepared to do a tracheotomy on an instant's notice, and especially so if the thymus be perceptibly enlarged. It may be necessary to use a long tracheal tube. Operations of convenience should be postponed until the patients can be carefully built up. Operations of necessity may be practiced with the above precautions, while in cases of impending or actual emergency one may depend on artificial respiration after tracheotomy and the use of adrenalin.

Patent Urachus.

DR. GEORGE TULLY VAUGHAN, Washington, D. C., explained the defective development in embryology which leads to the formation of patent urachus and of Meckel's diverticulum. He divided cases of patent urachus into the complete, blind, blind internal and blind external, and into congenital and acquired varieties, and explained the occurrence of some cases of acquired patent urachus by the pressure of urine in the bladder from obstruction to its normal outflow, causing the small valve which guards the bladder opening of the urachus to give way and to permit urine to enter the urachus, when, if infection takes places, abscess forms, and pus breaks through the umbilicus or discharges into the bladder. He briefly reviewed 52 cases reported in the literature and added one case of his own; of this number 38 patients were operated on, with 32 recoveries and 3 deaths, and in 3 cases the result was not reported. He divided the methods which have been tried for closing the urachus into eight classes as follows: 1. The application of caustic or of actual cautery to the umbilical opening. 2. The use of the cautery and of ligatures or sutures. 3. The use of ligature or suture only. 4. Plastic operations, the application of a flap of skin to close the opening. 5. To open or to slit up the urachus, curette or cauterize and pack. 6. Removal of sources of irritation from the urachus, such as stones, pus, etc., and keeping the parts clean. 7. Removal of obstruction to the flow of urine from the bladder through the urethra, as a tight prepuce, strictures of the urethra, hypertrophy of the prostate, and tumors or stone in the bladder. 8. Extirpation or dissecting out of the urachus and sewing or ligating the part next to the bladder, after the manner of treating the appendix in appendectomy. Dr. Vaughan does not approve of the method of simply closing the umbilical end of the fistula, lest an infected suppurating area be left which may cause septicemia or peritonitis. He considers slitting open and packing the abscess cavity a rational operation, but thinks the operation of election is to dissect out the urachus with the entire diseased area. Dr. Vaughan used this method in his case, a man of 40, who had acquired patent urachus since the age of 17. A month after the patent urachus was cured, it was necessary to perform nephrolithotomy on the right kidney, and nine months later the same operation on the left kidney.

Summary of Fractures of Spine Treated at Boston City Hospital from 1864 to 1905.

DR. H. L. BURRELL, Boston, concluded: 1. Fractures of the spine may well be divided into two classes—first, fractures of the spine with injury to the cord; and, second, fractures of the spine without injury to the cord. 2. It is not best to decide what the treatment of an individual fracture of the spine should be from the statistics, because the lesion varies so widely. 3. In many cases of fracture of the spine it is impossible to state primarily whether the cord is crushed or pressed on by bone, blood, or exudate, except by an open operation. 4. Only by the persistence of total loss of reflexes, complete insensibility to touch and pain, and motor paralysis below the level of the lesion can total transverse destruction of the cord be diagnosed. 5. If pressure on the cord is allowed to remain for many hours, irreparable damage to the cord may take place. 6. Unless it is perfectly clear that the cord is irremediably damaged an open operation to establish the condition of the cord and to relieve pressure is imperative as soon as surgical shock has been recovered from. 7. In certain cases of fractuure of the spine, when the cord is not injured, but is liable to injury from displacement of the fragments of a vertebra, rectification of the deformity and fixation of the spine may be used. 8. If the cord is crushed, no matter what treatment is adopted, of necessity there will be a high rate of mortality.

The Surgical Treatment of Intraspinal Tumors.

DR. RICHARD H. HARTE, Philadelphia, said that the science of spinal localization is now so well developed that it usually is not difficult to determine with accuracy the location of an intraspinal growth. What is usually understood by the term tumor of the spinal cord is an extramedullary but intraspinal growth, like a sarcoma, a fibroma, or a myxoma, giving no evidence of its existence except by the symptoms of medullary pressure which it produces. There have been found records of 92 operations for spinal tumors, among which number 43 patients died, a total mortality of nearly 47 per cent. The nature of the tumor is recorded in 88 of the reported cases. It was sarcomatous in two-fifths of the whole number (37 cases); adhesions, thickenings, etc., hold second place, with 11 cases; then come echinococcus, 8 cases; fibroma, 6 cases; syringomyelia, 5 cases; endothelioma, 4 cases; psammona, 3 cases; cyst, 3 cases; fibromyxoma, 2 cases; osteoma, 2 cases, and one each of myeloma, lipoma, lymphangioma, dermoid cyst, primary and secondary cancer, and one tumor of bone whose nature was not stated. Dr. Harte reported an interesting case of paraplegia from Pott's disease, in which he resorted to laminectomy, with great improvement. With very few exceptions, he said, it is impossible to determine the nature of the tumor before operation. He reported a case of dermoid cyst of the spinal canal in which he operated; the operation was followed by recovery. The patient was a girl, 7 years of age. Of 82 cases in which the region of the spine affected is given, the upper dorsal region was involved in 33 cases, or over 40 per cent. The tumor was found in the lower dorsal region in 24 cases, in the lumbosacral region in 14, and in the cervical region in 11 cases. The cause of death is given in 28 cases. One-half of these were due to shock and hemorrhage, or to infection and meningitis, there being 7 fatal cases under each of these categories. Eight patients died from exhaustion, 3 from recurrence of malignant growths, 2 from hypostatic pneumonia, and 1 from bedsores and sepsis. The technic of the operation is essentially the same as that used in traumatic cases.

Tubercular Conditions of the Spine Requiring Surgical and Mechanical Relief.

Dr. DeForest Willard, Philadelphia, stated that the principal surgical measures employed for the relief of spinal caries are laminectomy for paraplegia; forcible immediate straightening of the kyphosis; forcible gradual straightening; erasion of carious bone; wiring of spinal processes; evacuation of pus accumulations; long continued fixation of the column, and hygienic measures to prevent the necessity for operative interference. Complete, methodical and long-continued fixation of the spine with hyperextension and with helpful surroundings in the sunlight are the prime factors in securing new bone deposit necessary to replace the carious bone. Laminectomy for paraplegia is advisable only after long-continued and patient treatment along these lines for from one to two years, since the prognosis, especially in children, under these conditions is favorable and good powers of locomotion may be confidently expected. The operation is justifiable in selected cases in which loss of motion and sensation are progressively worse and the symptoms threaten life. If the tuberculous masses within the spine can be removed, and if extradural pachymeningitic deposits or pus can be evacuated, improvement may be expected, and in many cases relief occurs. The operation has a mortality of about 25 per cent. from immediate shock; 36 per cent. within a month, while one-half the patients die within the next year, their lives being probably shortened by the operations; cases in which there is no improvement and death equal nearly 65 per cent. Forcible immediate straightening of the kyphosis is an unsurgical and dangerous proceeding, in that it is liable to reawaken the tubercular disease and to weaken the column. Forcible gradual straightening by supporting the kyphotic area on a pedestal is a valuable agent in relieving deformity. Complete erasion of the carious bodies of the vertebræ is an uncertain operation, in the dorsal region requiring section of ribs, with danger of wounding the pleura. Wiring of the spinous processes has not been tried sufficiently to demonstrate its helpfulness. Spinal abscesses, which contain only liquefaction of caseation should be aspirated. When true pus forms, aseptic through drainage is advisable.

Tumors of the Spinal Cord.

Dr. J. Collins Warren, Boston, read a paper in which he reported three cases of tumor of the spinal cord operated on *with good results.*

Spina Bifida.

Dr. James E. Moore, Minneapolis, presented an analysis of 385 cases treated by excision. A careful study of these reported cases illustrating the experience of many surgeons, justifies him, he says, in drawing the following conclusions: 1. Operation on children of very tender age is scarcely worth while, because it is accompanied by so large a mortality rate, and because it does not stop the progressing cases. 2. Patients 5 or more years old can be operated on safely. 3. Patients with large or rapidly growing tumors, with hydrocephalus and with paralysis or deformities of the extremities are not cured. Finally, all that it can be hoped to accomplish by operation for spina bifida is to relieve the patient of an unsightly and annoying tumor after he has survived the dangers of the affliction per se.

Exophthalmic Goiter Treated Surgically.

Dr. Thomas W. Huntington, San Francisco, said that during the past three years he has treated surgically 9 patients suffering from this disease. In each instance, partial ablation of one or both lobes of the thyroid was done, and one patient was subjected to three operations successively. Seven were females and 2 were males. Their ages ranged from 28 to 56, the average age being 42 years. In 5 patients, the development of symptoms of exophthalmic goiter was associated with pre-existing enlargement of the thyroid. Two of these cases were cystico-colloid. In 4, the development of characteristic symptoms was simultaneous with glandular hypertrophy. All these cases were colloid. In the 5 cases in which the exophthalmic condition developed secondarily preexisting glandular hypertrophy was noted during a period of of 6, 10, 34, 35 and 13 years, respectively. In this series, exophthalmic symptoms were noted 1, 2, 3, 2, and 2 years prior to operation, the average being 1 4/5 years. The duration of symptoms in the primary or pure Basedow cases prior to operation was two years, three months, two months and one year, the average being seven and one-quarter months. In this series 8 patients survived the operation and are living. One patient died on the twelfth day. The 8 living patients were carefully watched and their status definitely recorded up to date. Dr. Huntington gave a detailed account of each case as it occurred. A wider experience in this particular field, he states, has increased his faith in the value of surgical interference in carefully selected cases, and in conclusion he repeated the statement he made in an earlier communication, namely, that the argument for early operation in malignant diseases applies here with equal force. Extirpation should be undertaken before destructive changes have occurred, before the function of important organs is seriously, perhaps permanently, injured, and the patient's vitality lowered by chronic thyroid intoxication.

A Review of Five Hundred Cases of Gastroenterostomy.

Dr. William J. Mayo, Rochester, Minn., gave a summary of all the operations performed by him and by Dr. Charles H. Mayo during fourteen years in which an incision was made in both intestine and stomach, and plastic union established to increase gastric drainage. The death rate includes every patient dying in the hospital without regard to the cause of death or to the length of time after operation. Of pyloroplasty, there are 21 cases with no deaths, and 7 reoperations. Pyloroplasty has only a small field of usefulness. Finney's gastroduodenostomy, 58 cases, 4 deaths, 2 deaths from other causes at a late date, 1 death in the first 46. Dr. Mayo says that there is a large field of usefulness for this operation in narrow stricture following the healing of ulcers, but it is less useful in unhealed ulcer. Of gastrojejunostomy, there are 421 cases; benign, 307, death rate 6 per cent.; last 140 cases, 4 deaths. Malignant, 114, death rate 18 per cent; in the last 40, including radical operations for cure of cancer 5 per cent.

Murphy button, 157 operations, 139 anterior, and 18 posterior. This is the operation of choice after pylorectomy and partial gastrectomy. McGraw ligature, 38 operations. This is the operation of choice by the anterior method in gastrojejunostomy for inoperable cancerous pyloric obstruction. There were 228 posterior suture operations. Robson's bone bobbin, 43 operations, with 4 deaths, and 4 secondary operations. Moynihan operation on 9 inch loop, 53 operations, with 3 deaths; 7 patients were reoperated on for chronic bile regurgitation within 15 months. Roux-Doyen operation, 48 cases, 2 deaths, 2 secondary operations. Operation of choice is the Moynihan-Peterson without a loop, made by suture within 3 inches of the origin of the jejunum and obliquely on the posterior wall of the stomach with the inferior margin at the greater curvature near the junction of the pyloric end with the body of the stomach. In the last 80 gastrojejunostomies for benign disease there was only 1 death.

A Simple Aseptic Surgical Technic.

DR. DUDLEY P. ALLEN, Cleveland, Ohio, related observations on a series of 377 bacteriologic examinations of the hands, made at the close of operation, and on the clinical results obtained in 3,500 cases. The bacteriologic investigations were conducted in five series. In Series A, the cleansing of the hands was with soap and water, scrub brush and nail cleaner. The hands were then sterilized in Harrington's solution. In operating the hands were encased in rubber gloves in which was sterile water. In each of 26 observations, cultures taken from the hands at the close of operation were negative. In Series B the washing of the hands was as in Series A. Twenty-four observations showed that cultures were negative in each case. In Series C the washing was as in Series A, with the addition of thorough subsequent washing in 70 per cent. alcohol. In 42 observations the *Staphylococcus pyogenes albus* was found in 8 cases, or in about 20 per cent. The conclusion reached is that alcohol is not efficient as a disinfectant and does not prevent the development of bacteria within the rubber gloves containing no germicide but simply sterile water. From these observations, it seems probable that if bacteria develop on the hands sterilized by alcohol, when in gloves containing simply sterile water, they will develop in the same manner on the hands prepared in the same way if encased in dry gloves with powder, as the hands become moist with perspiration. In Series D the hands were prepared as in Series C, and then washed in a solution of bichlorid of mercury, 1 to 5,000, and encased in rubber gloves containing the same solution. Sixty-four observations were made, all negative except one, in which the *Staphylococcus pyogenes albus* was found. In Series E, the hands were washed as in Series A, and then thoroughly washed with a solution of bichlorid of mercury, 1 to 5000, and encased in rubber gloves containing the same solutions. One hundred and two observations were made. The hay bacillus was found in one case. In Series F the hands were washed as in Series D, and then cleansed in a solution of bichlorid of mercury 1 to 3000, and encased in gloves containing the same solution. Seventy-five observations were made. The *Staphylococcus pyogenes albus* was found in a single case.

The clinical observations were made on a series of 967 laparotomies. Of these, 687 were clean, and 288 were septic before operation. There were 2,533 operations other than laparotomies. This gives a total of 2,139 clean operations. For the purpose of study the clean cases only were taken, since the question of asepsis can not be studied in cases septic before operation. Tables were presented by Dr. Allen showing the results obtained in all the various series of operations, as in hernia, varicocele, varicose veins, and laparotomies of all kinds, and in other miscellaneous operations. The results show from the whole series of 2,139 clean operations but two deaths from sepsis. Erysipelas developed but once. Stitch abscess occurred in 58 cases, or in about 2.25 per cent. The method of cleansing the hands finally adopted is to wash them thoroughly with soap and water, using the scrub brush for the palms of the hands, but only slightly on the backs of the hands, and never on the arms, the object being to avoid irritation of the integument. The nail cleaner is used only beneath the nails and not around the bases of the nails. The hands and arms are then washed in a solution of bichlorid of mercury, 1 to 5000, and encased in rubber gloves containing the same solution. Dr. Allen believes that the continued action of the solution of bichlorid of mercury in the gloves is a fundamental safeguard in preventing the development of bacteria within the gloves during operation. That this is true in practice is shown by the results obtained in the large number of cultures taken at the close of operation.

The conclusions reached from the various series of cultures and clinical cases are, Harrington's solution, although efficient, is undesirable, since it causes marked irritation of the hands and arms. The washing of the hands and arms should not be too violent, and the use of the scrub brush should be confined to the hands. The arms should be washed by rubbing with gauze or a towel. The use of the nail cleaner about the base of the nails is unnecessary. Alcohol is not adequate as a germicide when used on the hands. A solution of 1 to 5000 bichlorid of mercury, used after washing to disinfect the hands and arms, and then used in the rubber gloves, is thoroughly satisfactory in protecting against the development of bacteria within the gloves during operation. The rubber glove is a guaranty of safety, not only to the patient, but to the operator himself, when operating on infected wounds. A mask over the face is not necessary.

Suture of the Spinal Cord Following Complete Severance by Gunshot Injury.

DR. GEORGE R. FOWLER, Brooklyn, N. Y., reported the case of a man, aged 18, who was shot in the back from a 38-caliber revolver, at a distance of about 30 feet, somewhat from the right side. Shock was severe and paralysis of the lower extremities occurred at once. The bullet wound was one and one-fourth inches to the right of the median line and on a level between the tenth and eleventh dorsal spines. He was found to be paralyzed below the waist. Sensation was absent over all of both lower extremities and over the abdomen as high as one inch above the crests of the ilia, on the sides, and about half way between the symphysis and the umbilicus in front. The bowels moved involuntarily and irregularly, and without the volition or cognizance of the patient. There was considerable twitching of the muscles of both legs, especially the toes. He was operated on May 9, 1903; ether anesthesia. An incision was made, six inches long, over the spines of the vertebræ, the middle of the incision resting on the eleventh dorsal spine. The laminæ of the tenth, eleventh and twelfth vertebræ were removed by the chisel. The bullet was found lying transversely between the severed ends of the cord, concealed from view by a large blood clot, a very narrow, ragged and a contused strip of dura, scarcely more than 1/16 of an inch in width remained intact. The blood clot was carefully sponged away and the bullet removed. The ends of the cord were sutured with three fine chromicized catgut sutures, the dura being included in the sutures. No special difficulty was experienced in drawing together the ends of the cord and closing the defect, the latter representing in width the diameter of the 38-caliber bullet. The dura was further secured with a number of sutures of fine catgut and a drain consisting of a half dozen narrow strips of oiled silk protective introduced. The skin incision was sutured with silkworm gut. Twenty-six months after the injury, voluntary motion was practically lost in the affected area. The patient was able to stand when supporting himself by the hands resting on an apparatus, and to make some locomotion by swinging movements in a special frame on wheels. The bladder and rectum control was doubtful, the former acting automatically. The patient had the sensation that the bladder and rectum were about to empty themselves, and if the urinal or bedpan were brought to him promptly, soiling was prevented. The amount of urine passed in this manner probably averaged more than a pint in the twenty-four hours. The urine was sometimes voided during sleep. Sensation was practically abolished in the entire affected region, with the exception of an area about five inches in length extending down the outer side of the right thigh, in which some sensation was present. Tactile sensations were recognized, but were usually referred to a point two or three inches distant from the point touched. Marked rigidity and spasticity of both legs were present. Patellar reflex was exaggerated; the Achilles was reflex marked. Ankle clonus was present on one side and absent on the other. The reaction of degeneration was absent. Bedsores developed in the third month which extended to the muscles and were six months in healing. The skin showed but slight, if any, evidences of trophic disturbance.

Intussusception.

Dr. **Maurice H. Richardson**, Boston, reported a case of intussusception in a boy aged 4. The operation showed an invagination of the small into the large intestine, so firm that reduction seemed impossible. The child's condition was so bad that an enterostomy was performed, in the hope that a cure would be effected by spontaneous sloughing of the invaginated gut, life meanwhile being maintained through the enterostomy. Unfortunately the child died at the end of 18 days; the immediate cause of death being a purulent bronchitis. At the autopsy, no trace of the intussusception could be found. A careful search through the literature shows no case of spontaneous reduction of an intussusception in which the chain of evidence is absolutely complete. In this case, the diagnosis made before operation, and demonstrated before the staff of the Massachusetts General Hospital and a large audience, is unassailable. The lesson taught by this case would seem to be that greater efforts should be made for reduction, either by hydraulic or air pressure through the rectum or by manipulations after the abdomen has been opened. In Dr. Richardson's experience, however, the results have been fatally compromised by just such efforts. It seems questionable, therefore, whether in view of the great rarity of spontaneous reduction and of the almost universal failure of the milder palliative measures, one will ever be justified in selecting any but those operative measures which, undertaken at the earliest possible moment, can not fail to remedy completely and effectively the disease.

Constriction of the Duodenum Below the Entrance of the Common Duct and Its Relation to Disease.

Dr. **A. J. Oschner**, Chicago, reported a series of cases in which operation was performed for the relief of cholecystitis, and in which there is frequently present a constricted condition of the duodenum just below the entrance of the common duct. This was usually accompanied with dilatation of the duodenum above this point. The dissection of a number of cadavers demonstrates a marked increase in the circular muscular fibers of the duodenum beginning at a point from 1 to 3 cm. below the entrance of the common duct, and extending for a distance of 1 to 4 cm., forming a broad sphincter. It seems likely that this sphincter has much to do with the physiologic function of the duodenum, facilitating the mixing of chyme with bile. It also seems likely that this sphincter serves the purpose of establishing a condition of rest in this portion of the alimentary canal in case of irritation of the biliary or pancreatic ducts. Dr. Ochsner gives a tabulated list of 14 cases of dilatation of the duodenum which he has met with among patients operated on for the relief of gall-bladder disease.

Perforation of the Gall Bladder.

Dr. **Archibald MacLaren**, St. Paul, Minn., reported ten cases of this condition, and said that gall bladder perforations are comparatively rare, especially if observations are confined to ruptures due to violence, ulceration and gangrenous inflammations. If we add to these the cases of cholecystitis in which inflammatory products have evidently escaped from, or passed through, the wall of an inflamed gall bladder, even though we may not find the perforation itself, the number of cases is considerably increased. Such abscesses about the gall bladder, either in the free peritoneal cavity or in the neighboring liver tissues are rare as compared with appendiceal abscesses; but are not uncommon and unquestionably should be included when studying perforations of that organ. Fistulous passages between the gall bladder and duodenum, stomach, or colon, are, of course, due to perforation of the gall bladder. Most perforations of the gall bladder occur in neglected cases in which gallstones have been known to exist for long periods of time and in which the patient has had ample warning through many attacks of biliary colic. Dr. MacLaren has operated in 80 gallstone cases, 9 of which were perforative in character. There were 8 recoveries and 1 death. In this fatal case, he believes that the result would have been the same even though the gall bladder had been removed, because with gangrene of the gall bladder and neighboring liver tissue, and especially in the presence of a localized abscess, any operative work which disturbs this abscess wall will only spread the infection and lessen the chance of recovery. He believes that in any perforative case which goes on to the formation of a localized abscess, the wisest course is to open and drain the abscess, waiting until a later time to deal with the gallstones or the disease of the gall bladder.

Resection of Portions of Chest Wall.

Dr. **Emmet Rixford**, San Francisco, read a paper in which he discussed the subject of excision of portions of the chest wall for malignant tumors and reported cases in which he had operated.

MINNESOTA STATE MEDICAL SOCIETY.

Annual Meeting, held in St. Paul, May 31-June 1, 1905.

The President, Dr. **John W. Bell**, Minneapolis, in the Chair.

Oppose Cheap Work.

A resolution was adopted at the opening session providing that any member who should bid for fraternal insurance or club work at prices lower than the regular fee table would be liable to loss of membership, and that any branch society permitting such procedures would be liable to lose its charter.

Equal Admission Requirements.

The committee having in charge the standard of admission to the medical department of the state university protested against the lower standard for admission to the homeopathic department now obtaining, and recommended that the standard for admission to the regular school ought to be raised and the requirements for the homeopathic school raised to the same standard. This recommendation was adopted by the House of Delegates.

Reports of Officers.

The report of the treasurer showed a balance on hand of $2,810, and the secretary reported a total membership of 984, an increase of 98 for the year.

The recommendation of the council that no county society be given a charter until it has five members was adopted.

Addresses.

In his presidential address Dr. John W. Bell reviewed the work of the society during the year.

Dr. **William L. Rodman**, Philadelphia, gave an exposition of the progress of surgery.

Tuberculosis Symposium.

Following the oration in surgery the tuberculosis problem was discussed from various viewpoints. Dr. Henry M. Bracken, St. Paul, discussed the care of tuberculous patients and stated that most of these cases, if taken in time, could be cured by sanatorium care. Dr. H. Longstreet Taylor, St. Paul, spoke especially of sanatorium treatment, and Dr. George D. Head, Minneapolis, of the dispensary treatment of tuberculosis.

Criticise State Examining Board.

Dr. **Arthur Sweeney**. St. Paul, presented a paper entitled "The State Board of Medical Examiners; a Criticism," in which he declared that the board had become useless through inactivity. It had carefully examined its applicants, but had utterly failed to prosecute medical irregulars and frauds.

Dr. **Burnside Foster**, St. Paul, said that county attorneys should be urged by the state board to prosecute such cases, but that this had not been done.

Dr. Ole E. Linger, Minneapolis, claimed that the board had secured only one conviction since it was organized.

Dr. Haldor Sneve, St. Paul, considered the board as at present constituted a useless body and said that it should be abolished.

State Journal Proposed.

The president recommended the publication of a monthly medical journal as the official organ of the society. On motion this matter was referred to a committee to report next year.

Election of Officers.

The following officers were elected: President, Dr. Charles H. Mayo, Rochester; vice-presidents, Drs. David N. Jones, Gaylord; Theodore Bratrud, Warren, and Samuel H. Boyer, Duluth; secretary, Dr. Thomas McDavitt, St. Paul; treasurer, Dr. Richard J. Hill, Minneapolis, and delegates to the American Medical Association, Drs. William A. Hall, Minneapolis; Harper M. Workman, Tracy, and John T. Rogers, St. Paul.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Saline Injections and Rectal Feeding in Gastric Ulcer.

The treatment of acute gastric ulcer, according to F. D. Boyd in an abstract in *Med. Review of Reviews*, is rest for the stomach. An adult resting requires on an average 2,000 calories per diem to maintain the proper balance of nutrition, and it has been found that rectal absorption ranges from 300 to 500 calories daily. Rectal alimentation, therefore, means partial starvation and, in addition, it causes an increase in intestinal putrefaction. It is the common belief that substances injected into the large intestine reach only to the ileocecal valve, but, according to this author, particles under favorable conditions may reach the stomach. In this connection he quotes the experiments of Gützner, that if starch emulsion be injected into the rectum with a normal saline solution, the starch can be washed out of the stomach in from four to six hours afterward. This occurs partly through recurrent peristalsis or, more probably, by the action of the surface epithelium of the intestine. It is probable, therefore, according to this author, that rectal feeding may interfere with gastric rest, as considerable pain and vomiting frequently follow nutrient enemata. He recommends, therefore, in the beginning a mild aperient. No food should be given by the mouth during the period of physiologic rest of the stomach. Every six hours one pint of warm normal saline solution is syphoned into the bowel by means of a soft catheter and a filter funnel. This relieves thirst. If irritability be present, a small amount of morphin may be introduced into the rectum.

No fluid should be taken by the mouth. Water is not absorbed by the stomach to any great extent, and must be passed into the intestine, and thus sets up peristalsis, consequently it must not be given, especially if gastric hemorrhage be present. The mouth and teeth must be properly cared for, as salivation and irritating secretions from the mouth are swallowed and gastric irritation is set up. In simple ulcer complete rest for from twenty-four to forty-eight hours will cause all pain and gastric hyperesthesia to pass away. If these symptoms continue under this treatment for three days it means that the healing process is not going on and that adhesions are probably present. The period of complete rest should continue for from four to six days, and after this milk in small quantities may be given. It is unnecessary to peptonize the milk, but it should be diluted with water, with the addition to a small amount of sodium bicarbonate or phosphate.

At the end of the second week the patient may take sufficient milk to maintain the nutritive balance and the diet may be gradually increased till at the end of four weeks the patient may be placed on a convalescent diet without discomfort.

The treatment of gastric hemorrhage is the same as that of acute ulcer. Severe or repeated hemorrhages may require more active treatment. Of the medicinal preparations recommended to check hemorrhage, Boyd recommends morphin hypodermically and adrenalin by the mouth. He recommends lavage in cases of hemorrhage, against the usual opinions, stating that its benefit more than counterbalances its dangers. The presence of coagulated blood in the stomach causes vomiting and increased peristalsis which is more likely to disturb clot formation than lavage when carefully carried out. He, therefore, recommends lavage, using water at a temperature of from 104 to 105 F. Iced water is not recommended, as it tends to induce shock.

F. P. Henry, in *Amer. Med.*, recommends rest, both general and local, in the treatment of gastric ulcer. He states that this may be carried out by putting the patient to bed and nourishing him by rectal enemata. He recommends Ewald's mixture for rectal feeding: Two or three eggs beaten up with a tablespoonful of cold water. A small quantity of starch is then boiled with half a cupful of a 20 per cent. solution of grape sugar to which is added a wineglassful of red Rhine wine; the egg mixture is then slowly added, taking care that the fluid is not hot enough to coagulate the eggs. Eight ounces is sufficient at one feeding, preceded by a simple saline enema. These nutrient enemata should be continued for three days, followed by small amounts of food, consisting of milk or gruel, by the mouth. When milk disagrees with the patient, buttermilk or boiled or peptonized milk is recommended, gradually increasing the diet to raw or soft boiled eggs, beef, mutton and chicken broths.

The medical treatment, according to this author, is of secondary importance. Bismuth subnitrate is recommended in half-dram doses three times daily, suspended in barley water or mucilage. Severe pain demands morphine. Vomiting may be checked by morphin or cocain. Hematemesis may be checked by hypodermic injection of ergot or adrenalin. Gallic acid and lead acetate are also of value. Some form of anemia frequently accompanies gastric ulcer. The blood should be improved by some bland form of iron after the acute symptoms have subsided. For this purpose Ewald recommends a 2 to 3 per cent. solution of the sesquichlorid of iron, taking one teaspoonful thrice daily in a wineglassful of egg water, making a solution of albumin by adding one part of egg albumin to two parts of water.

Some authorities recommend a combination similar to the following in cases of gastric hemorrhage:

℞.	Acidi tannici	gr. xxx	2	
	Glycerini	m. xxx	2	
	Aquæ dest. q. s. ad	℥i	30	

M. Sig.: To be taken at one dose. Or:

℞.	Bismuthi carb	gr. xii		75
	Pulv. tragacanthæ	gr. v		30
	Acidi hydrocyanici dil	m. v		30
	Liq. morph. hydrochlor (1 per cent.)	m. x		65
	Aquæ chloroformi q. s. ad	℥ss	15	

M. Sig.: At one dose and repeat three times a day.

Hyperchlorhydria not infrequently precedes ulcer formation. To counteract this condition bismuth subnitrate is recommended in large doses after meals, put up in wafers or suspended in mucilage.

The following combination is of value:

℞.	Sodii bicarb	gr. viii-xv		50-1
	Magnesiæ calc	gr. x		65
	Bismuthi subnit	gr. xx	1	30
	Cretæ preparatæ	gr. iv		25

M. Ft. chart. No. i. Sig.: One such powder after each meal.

Constipation may occur with the administration of the foregoing, and under such circumstances a saline laxative is indicated.

Tabes Dorsalis.

The general and symptomatic treatment of tabes dorsalis, according to *Med. News*, consists in: 1. Avoid carefully all physical and mental exertion as well as alcoholic and sexual excess. 2. Every day on arising administer friction along the vertebral column by means of a horsehair glove.

The following should be taken every other day before meals:

℞.	Pulv. capsici	gr. ii		12
	Pulv. ergotæ	gr. v		30
	Pulv. glycyrrhizæ	gr. x		65
	Mellis q. s.			

M. Ft. pil. No. xxx. *Sig.:* One pill before each meal and repeat every second day.

During the alternate days the following is recommended:

℞.	Potass. iodidi	gr. xx	1	30
	Aquæ	ʒiv	15	

M. *Sig.:* One to two teaspoonfuls after each meal, in a glass of milk.

If the cause of the trouble is specific, mercurial inunctions are indicated.

If the pains are very severe the following combination is recommended:

℞.	Morph. hydrochlor	gr. x		65
	Cocainæ hydrochlor	gr. v		30
	Aquæ dest.	℥i	30	

M. *Sig.: Fifteen drops to be injected hypodermically to relieve the pains.*

To counteract the urinary and ocular affections one or two pills a day of the following combination is recommended:

℞.	Ext. belladonnæ	gr. iii		20
	Ext. gentianæ	gr. v		30
	Pulv. glycerhizæ	gr. x		65
	Mellis q. s.			

M. Ft. pil. No. xx. *Sig.:* One or two pills daily.

The bowels must be kept active with glycerin enemata, or one of the following pills may be substituted:

℞.	Podophyllin	gr. ii		12
	Ext. cascaræ sagradæ	gr. x		65
	Mellis q. s.			

M. Ft. pil. No. x. *Sig.:* One pill at bedtime for bowels.

Acute Anterior Urethritis of Gonorrheal Origin.

The following outline of treatment to be followed in cases of acute anterior urethritis of gonorrheal origin is recommended by E. G. Ballenger in *Southern Medicine and Surgery:* For the successful outcome of the treatment a well-regulated method of living is of the greatest importance. The patient should avoid all sexual excitement, alcohol, coffee, highly seasoned food, condiments, gravies, excessive use of tobacco and any violent exercise. The diet should consist of milk, buttermilk and other light, easily digestible substances that do not overload the urine. Large quantities of plain or lithia water, or lemonade, are of value, and the bowels should be regulated by mild laxatives or aperient mineral waters.

It should be kept in mind that the great feature of gonococci is to linger and to recur.

Internal medication is of great value. The author recommends balsam of copaiba and oil of sandalwood as of great benefit when given in doses of five minims (.30) each, three or four times daily, if no stomach disturbances arise.

In using urethral injections of the silver preparations the patient should be instructed to pass urine before the injection. The sides of the meatus are so pressed as to retain the fluid after the syringe has been removed. The fluid should be retained for five or ten minutes after each injection. The injections should be repeated once in three hours during the first three days, and gradually reduced to three a day and continued until the quantity of pus is very small. A saturated watery solution of hydrastin muriate should then be substituted for the silver and continued for from ten days to two weeks. If shreds and discharge are still present at the end of two or three weeks a more astringent preparation may be given, but always avoiding one that burns.

For this stage of the disease the author recommends the following combination:

℞.	Acidi carbol	gtt. vi		30
	Cupri sulph	gr. x-xv		65-1
	Plumbi acetatis	gr. x		65
	Aquæ dest q. s. ad	℥viii	240	

M. *Sig.:* To be used as an injection.

If a burning sensation appears the injection should be diluted. The meatus should be anointed with vaselin during the acute stage to prevent its being glued together or to stick to the protecting cotton and thus create a damming back of the discharge in the urethra. The patient should be urged to attend to proper hygiene, diet and medication until the shreds disappear from the urine.

Medicolegal

Privilege Not Severable.—The First Appellate Division of the Supreme Court of New York says that in the personal injury case of Powers vs. Metropolitan Street Railway Company the plaintiff called as a witness, for the purpose of proving the extent and nature of his injuries, the surgeon at the hospital to which he had been taken, who examined and treated him at that time. After the surgeon had been sworn, and before his direct examination was begun, the plaintiff's counsel stated that he called the witness for a special purpose, and asked that the cross-examination be limited to that purpose; but he did not state what that purpose was. The witness, in response to questions, then testified that he had charge of the plaintiff while in the hospital, and, on being handed a card, he stated that the memorandum on it was in his handwriting, was made at the time the plaintiff was in the hospital, and that it expressed his opinion at that time of the plaintiff's case; that it was a diagnosis of the case, and that, without reference to it, he could not, from memory, state the plaintiff's condition at the time. After examining the card, apparently for the purpose only of refreshing his memory, he testified that the plaintiff had phlebitis, contusion and thrombosis of the saphenous veins, explaining the meaning of those terms. On cross-examination he testified to being connected with the Vanderbilt Clinic, where he had seen the plaintiff, examined and treated him. He was not allowed to testify as to plaintiff's condition while attending the Vanderbilt Clinic, the testimony being excluded as not proper on cross-examination. Afterward he was called as a witness for defendant; his testimony was then excluded as privileged, which the court holds was error.

By calling out the testimony which the plaintiff did from the physician as to his condition immediately after the accident for the purpose of showing the nature and extent of his injuries, the court says that the plaintiff waived the privilege granted him under Section 834 of the Code of Civil Procedure, and authorized the physician to disclose all the information acquired while in attendance on him professionally. Having once waived his privilege, and introduced the physician's testimony as to his injuries, the plaintiff could not again claim the benefit of the privilege for the purpose of excluding other testimony by the same physician as to the development and progress of the same injuries at a subsequent date. Having opened the door to let in the testimony of his physician as to the injuries at one time, he could not again close it so as to exclude the testimony of the same physician which related to the progress and development of those injuries.

It appeared that this physician, at the time of the trial, was in attendance as an expert for the defendant, and, the court says, the plaintiff doubtless feared that his opinion might be biased by that fact, and his testimony might, therefore, be prejudicial to the plaintiff's cause of action; but, while that fact might have a bearing on the weight to be given to the testimony, it was not a ground for excluding it. The plaintiff saw fit to rely on the physician to testify as to the examination made immediately after the accident and the condition then existing. Having done this, he could not close the physician's lips as to a condition existing subsequent thereto, when the condition, according to his own claim, resulted from those injuries. The plaintiff could not sever his privilege so as to waive it in part and retain it in part. Having once waived it on the trial, it then ceased to exist, either partially or entirely, at least so far as that trial was concerned.

Right to Be Paid for Attending Inquest.—Section 515 of the Iowa Code provides that the coroner "shall hold an inquest on the dead bodies of such persons only as are supposed to have died by unlawful means," etc. By virtue of Section 529, when he deems it requisite, "he may summon one or more physicians or surgeons to make a scientific examination, who shall receive a reasonable compensation to be allowed by the board of supervisors." In the case of Finarty vs. Marion County, which was brought by a physician to recover for services rendered in making such an examination on the summons of the coroner, the defense was made that the inquest was not lawful "for the reason that not the slightest suspicion or supposition existed that the deceased person had come to his death by unlawful means." But the Supreme Court of Iowa affirms a judgment in favor of the physician. It says that from the simple reading of the provisions quoted it seems clear enough that the supposition on which jurisdiction to act is made to rest must be one which arises—and, for that matter, exclusively so—in the mind of the coroner. He certainly could not justify himself for acting in any given case if the facts presented to him were such as that his own mind rejected the supposition that death had been caused by unlawful means. However, the allegation of the county amounted to nothing more than an assertion that the county, from the information gathered from it, had reached the conclusion that there was no room to suppose or to suspect that death had resulted from unlawful means. The allegation, then, was of a conclusion; not only that, but it must be apparent that the subject-matter thereof was wholly immaterial. A second sufficient answer to the county's contention was that the coroner was acting within the forms of law and in the apparent exercise of his lawful jurisdiction. In such cases it is not for a witness, whether he be subpenaed or summoned, to stand on the order of his going until a satisfactory showing is made to him that jurisdiction in the tribunal which demands his attendance is so far perfect as that he may be certain of his compensation in case he obeys. It is for him to answer, and, in cases where it is provided by statute, it is for the county, on proper demand, to pay.

Insurance Liability After Diabetes and Death After Injury to Thumb.—The Supreme Court of Minnesota says, in White vs. Standard Life and Accident Insurance Co., that an accident insurance policy provided that the company should be liable for injuries or death caused solely by accidental means, and expressly exempted it from liability if death resulted, wholly or in part, directly or indirectly, from any bodily disease or infirmity of the insured. The evidence in the case showed that, at the time the policy was issued, and at the time of the insured's death, which was claimed to have been the proximate result of an accidental injury to one of his thumbs, he was affected with diabetes, and the evidence was conclusive that such disease directly co-operated with the injury in causing death. The court holds that the company was not liable under the policy. It says that similar policies have been before both the state and federal courts, and the consensus of judicial opinion is that, subject to the exceptions contained in the policy, if the injury be the proximate cause of death, the company is liable, but, if an injury and an existing bodily disease or infirmity concur and co-operate to that end, no liability exists. If, however, the injury be the cause of the infirmity or disease—if the disease results and springs from the injury—the company is liable, though both co-operate in causing death. The distinction made in this particular is found in that class of cases where the infirmity or disease existed in the insured at the time of the injury, and, on the other hand, that class of cases where the disease was caused and brought about by the injury. And even in cases where the insured is afflicted at the time of the accident with bodily disease, if the accidental injury be of such a nature as to cause death, solely and independently of the disease, liability exists. The rule of proximate cause, as applied to actions of negligence, can not be applied in its full scope to contracts of this nature. But for the express reservation contained in this policy, the injury complained of in this case would, applying the ordinary rule of proximate cause, very properly be held the direct cause of the insured's death, but the fact that he was afflicted with diabetes at the time, which was aggravated by the injury and contributed to his death, removed the case from that rule and brought it within the exceptions of the policy. Nor was the rule in any way affected or changed by the fact that the company was informed, at the time the policy was issued, of the existence of the bodily infirmity. In such case the insurer contracts to indemnify the insured from accidental injury, knowing the existence of his bodily infirmity, but with the reservation and exception that the insurer will not be liable if such infirmity, directly or indirectly, co-operate with an accidental injury in causing death.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

July 15.

1 *Gall Spider Cases. R. T. Morris, New York.
2 Blood Pressure Observations for the Practicing Physician. C. E. Brush, Baltimore.
3 *Fractures and Dislocations of the Ulna. J. S. Wight, Brooklyn, N. Y.
4 *Cholemia in Neurasthenia. R. Richardson, Baltimore.
5 *Recent Views Regarding the Treatment of Nephritis. J. S. McLester, Birmingham, Ala.

1. **"Gall Spider Cases."**—Morris says webs of peritoneal adhesion are found in the bile-tract region so commonly that they have come to be looked on almost as a normal characteristic of the region by postmortem examiners. The significance of these webs of adhesion has been overlooked in the same way that we overlooked the significance of adhesions in the cecal region previous to our knowledge of appendicitis. Peritoneal adhesions in the bile-tract region cause symptoms that are commonly diagnosticated as belonging to a large group of gastrointestinal disorders, and Morris believes that the subject is one that is to attract the widespread attention of physicians immediately. Rules are given for making the diagnosis in "gall spider cases," as he characterizes them. He removes the gall bladder and prevents recurrence of adhesion by the employment of Cargile membrane.

3. **Fractures and Dislocations of the Ulna.**—Wight treats this subject in a systematic manner. There are (1) fracture of the styloid process, (2) fracture of the shaft of the ulna, (3) fracture of the olecranon, (4) fracture of the coronoid process. The dynamic relations are fully treated and the mechanism of the injuries explained in detail. The results are explained in the clinical reports illustrating the different fractures. Wight gives a basis from which to determine the nature of an old fracture to the ulna. The patient suffers pain in the joint; this is sometimes severe. The power of flexion is generally lost, although in some instances there is good command over the motions of the forearm, mostly for the reason that some of the fibers of the tendon of the triceps remain attached to the upper end of the lower fragment. The patient has a sense of insecurity in his injured limb, which may be best explained by saying that the coordinate action of the elbow joint has been impaired or lost. This impairment is different in different persons. It would appear as if the coördinate circle of the joint function had been more or less broken into; this circle is made up of bone, nerve and muscle. Therefore, there should be no difficulty in understanding the disability which follows the break in the correlated bone. It would seem to be nearly impossible for the ulna to be dislocated by the application of violence to its lower end, unless we take into account those cases in which there has been a fracture of the external condyle; in such a case the ulna is dislocated backward, and is accompanied by the head of the radius and the broken off external condyle.

4. **Cholemia in Neurasthenia.**—Richardson reviews the etiology and symptomatology of cholemia, calling attention to the nervous symptoms with which it is associated. The presence of bile pigment in the plasma and the cerebrospinal fluid in certain cases of neurasthenia is the primary cause of the disease. He recommends mercury in small doses in combination with sodium glycocholate mass, with the administration of large quantities of water containing the inorganic salts of the plasma in normal proportion as well as alkalies in full doses. He considers that this form of neurasthenia has a bad prognosis, the disease often progressing to a true insanity.

5. Recent Views Regarding the Treatment of Nephritis.—McLester thinks that the practice of giving large quantities of fluids in cases of acute nephritis is still very general and, owing to the intolerance of the acutely inflamed kidney to water, is productive of much harm. As a diet in this disease he indorses a milk and cream mixture. In chronic interstitial nephritis he advocates moderate restriction of fluids to relieve as much as possible the heart, and thinks the diet usually prescribed is too low in proteids to maintain the necessary nutritive equilibrium.

Medical Record, New York.

July 15.

6 *American Medical Association: Its Origin, Progress and Purpose. L. S. McMurtry, Louisville, Ky.
7 *Delay of Old Age and the Alleviation of Senility. C. G. Stockton, Buffalo, N. Y.
8 *Congenital Absence of Tibia: Transplantation of the Head of Fibula: Arthrodesis at Ankle Joint. T. H. Myers, New York.
9 Examination of Rectum and Its Value in Diagnosis. C. J. Drueck, Chicago.

6.—The Journal, July 15, 1905, page 145.

7.—Id., page 165.

8. Congenital Absence of Tibia. Transplantation of Fibula. Arthrodesis at the Ankle Joint.—Myers' patient was a boy of 2 years, who was perfectly developed except in the right lower extremity, from which the tibia was entirely absent. The femur was normal in shape, but slightly atrophied, and the head of the fibula articulated loosely with the upper and posterior part of the external condyle of the femur. The foot was in marked equinovarus. The leg was two and three-quarters inches shorter than the other, and, as it was useless for walking, the child had always gone about on his knees. As there was no reaction of degeneration among the leg muscles, it was thought that development would follow the use of the limb if this could be secured. The head of the fibula was accordingly freed from its attachments and brought into position between the condyles of the femur, where it was secured by suitable manipulation of the ligaments. The object of this operation was to lengthen the limb (about three-quarters of an inch was gained) to secure a stable support for the body weight, and to preserve the mobility of the joint. The ankle joint was then opened, the external malleolus cut off, and the fibula placed squarely on the astragalus and united to it by sutures. The object was to lengthen the limb, to correct the deformity, and to secure a stable position of the foot. Recovery was uneventful and now, ten months after operation, the boy can walk about all day with a splint, can flex his leg ninety degrees, and can almost fully extend it. Meyer reviews the etiology of the deformity and cites six other cases, which he says are all that have been treated by transplantation of the fibula. While in cases of this sort a splint and high shoe will probably always be required, still this is usually preferable to the alternative, which is amputation.

Medical News, New York.

July 15.

10 *American Medical Association; Its Origin, Progress and Purpose. L. S. McMurtry, Louisville, Ky.
11 *Delay of Old Age and the Alleviation of Senility. C. G. Stockton, Buffalo, N. Y.
12 *Influence which the Acquisition of Tropical Territory by the United States Has Had, and is Likely to Have, on American Medicine. G. Blumer, San Francisco, Cal.
13 *Treatment of Diarrhea in Children. J. E. Winters, New York.
14 Epilepsy, the Result of Gastrointestinal Disturbance. F. H. Murdoch, Pittsburg, Pa.
15 Three Additional Cases of Primary Sarcoma of the Stomach. H. Brooks, New York.

10.—The Journal, July 15, 1905, page 145.

11.—Id., page 165.

12.—Id., page 169.

13. Treatment of Diarrhea in Children.—Winters calls attention to the difference between diarrhea and dysentery and states that though they are two entirely distinct diseases, they may both exist in the same patient at the same time. He states that diarrhea is purely a food disorder and is, therefore, preventable. Prompt appropriate treatment arrests it at once, therefore, it should never be fatal. The first step in the treatment is the removal of the cause, and Winters believes it can best be accomplished by prompt administration of castor oil. After the detergent, cleansing, purifying action of the oil has ended, only water should be given for about twenty-four hours. In very severe cases from thirty-six to seventy-four hours must elapse before food is given. After this period of intestinal rest, food in a modified and weakened form of that which is physiologic for a well child of the same age, may be given. Winters gives explicit directions for modifying the food for children of various ages. He does not approve of the barley water and dextrinized cereal diet for young infants either in health or in disease.

Boston Medical and Surgical Journal.

July 13.

16 *American Medical Association: Its Origin, Progress and Purpose. L. S. McMurtry, Louisville, Ky.
17 *Delay of Old Age and the Alleviation of Senility. C. G. Stockton.
18 *Neurasthenia. A Study on Etiology. Treatment by Occupation. H. J. Hall, Marblehead, Mass.
19 Senile Albuminuria. A. E. Austin, Boston.
20 Recording of Rotation Deformity by Projecting Horizontal Points. H. O. Feiss, Cleveland, Ohio.
21 Anal Fissure. T. Hill, Boston.

16.—The Journal, July 15, page 145.

17.—Id., page 165.

18. Neurasthenia.—Hall states that although the term neurasthenia seems about to lose its identity in a better and more accurately descriptive nomenclature, still it is a very convenient expression, and one which will be readily understood to refer broadly to a wide range of functional mental and nervous deviations. The confirmed neurasthenic with his tangle of mental and nervous symptoms, presents an appalling problem to the conscientious physician. Hall believes that some of the confusion which clouds our understanding of neurasthenia and its treatment may arise from the fact that we look at the disease as a whole, and that such a view of any complicated body is bound to be misleading. An examination of the daily life of the average neurasthenic, he states, will reveal, in most cases, the grossest maladjustments. The patient's whole personality is at war with its environment. It is evident that here is a condition which, if not relieved, can perpetuate indefinitely, some, at least, of the most important neurasthenic symptoms. We may be dealing with elaborate toxins of over and perverse functioning, with physical disease and suffering, with personal predisposition and with heredity, but we are also dealing with matters of everyday living, and we are deeply concerned with two things—the attitude of the patient toward his environment and also with that environment. If the necessity for prolonged physical rest can be eliminated, Hall believes that the ideal life for the neurasthenic is one of occupation. The life of the artisan recommends itself in the treatment of this condition because in itself it is simple and is without the complications of social, business or professional life and may be so complete and satisfying as to compel devotion. Hall believes that the neurasthenic who can drop the conditions of his old life to become a successful weaver or potter thereby simplifies life immeasurably. The kind of life chosen as most frequently applicable and least likely to foster neurasthenia is that of productive industry. The difficulties of transferring the patient to this, for him, ideal environment are not so great as might at first be supposed.

New York Medical Journal.

July 15.

22 Diagnosis and Treatment of Gastric Ulcer. C. E. Nammack, New York.
23. Safety X-ray Tube. H. G. Piffard, New York.
24 Report of Operations Performed at the Public Clinics for Students at the German Hospital During the Session of 1904 and 1905. J. B. Deaver, Philadelphia.
25 Popliteal Aneurism. Surgical Treatment. H. M. Taylor, Richmond, Va.
26 Bronchoscopy for Removal of Foreign Bodies from the Lungs. E. F. Ingals, Chicago.
27 Case of Papilloma of Kidney with Nephrectomy. J. B. Boucher, Hartford, Conn.
28 Six Lectures on the Disease of the Blood. J. M. Swan, Philadelphia.
29 *Treatment of Erysipelas of Face. P. W. Monroe, Springfield, Ill.

29. Treatment of Erysipelas of the Face.—Monroe says that in treating erysipelas an attempt should be made to shorten the course and to modify the severity of the disease. To accomplish this the proliferation of the infecting organisms in the skin must be inhibited and the patient must be stimulated and supported in order to overcome and to eliminate the toxins. If a wound be the site of infection it should be carefully cleansed. The face should be washed with warm water and soap, and with alcohol, to remove all dirt, epithelial débris and oleaginous matter in order that the antiseptic applied may be more readily absorbed. The antiseptics are best applied in the form of cold wet dressings, and Monroe states that the best of these are solutions of aluminum acetate, bichlorid of mercury from 1 in 5,000 to 1 in 2,000, ichthyol 10 per cent., and carbolic acid. He believes that as there is undeniable evidence that carbolic acid is readily absorbed by the skin, it should be given the preference, but should be used with care. He applies it on gauze pads four or six layers in thickness, and remoistened about every hour. Over this he places a thin, light icebag, or better, an ice poultice, a mixture of finely crushed ice and sawdust in a bag of oiled silk. He regards the application of cold as a most important feature of the treatment, as the maintenance of a low temperature in the infected area is deterrent to the proliferation of the infecting organisms. Monroe states that erysipelas patients should be isolated and that the physician and nurse should wear rubber gloves when attending them. The patient should be kept in bed as long as the fever continues. In most cases calomel or salines are indicated in the beginning. In debilitated patients a milder cathartic or an enema is better. The diet should be fluid, its chief constituent being milk. When stimulants are necessary, alcohol and strychnin are best, in Monroe's opinion. The patient should be encouraged to drink water freely. When the temperature is high the patient should receive an alcohol sponge every four hours. As the inflammation subsides emolients and warm water will hasten resolution and desquamation. In those individuals in whom there are recurrent attacks, it is probable that in many the skin is never freed from bacteria, but that they remain quiescent in or about the hair follicles. In these cases, in addition to the general tonic treatment, local stimulation of the skin by alternate hot and cold ablutions and massage is of benefit. All abrasions and trivial wounds should be carefully cleansed and protected.

Lancet-Clinic, Cincinnati, Ohio.

July 8.

30 Conceptions of the Nature and the Management of Bright's Disease. A. C. Croftan, Chicago.
31 *Chloroform and Ether Anesthesia. C. T. Souther, Cincinnati.

July 15.

32 Tuberculosis as a Causative Factor in Sterility in the Male. G. E. [illegible]
33 Gonorrhe [illegible] ation of Male Sterility. M. L. [illegible]
34 Derangen [illegible] Causing Male Sterility. H. H. Hoppe, Cincinnati.
35 Recognition of Important Eye Lesions by the General Practitioner. G. F. Suker, Akron, Ohio.

31. **Chloroform and Ether Anesthesia.**—Souther calls attention to the fact that often too little consideration is given to the qualifications of the anesthetist. He mentions the various appliances for the administration of chloroform and ether, and the difficulty encountered in most of them when using them for male patients who have beard and mustache, and also says that these appliances can not be used, as a rule, in excision of the jaw and in operations on the hard palate. He describes in detail the method of preparing a patient for an anesthetic, and the method of its administration. He states emphatically that the patient should not be told to take long, deep breaths, but should be encouraged to breathe easily and naturally. He also states that in the stage of excitement it is unwise to hold the patient down too forcibly. The patient should feel that he has met an inanimate object and not a human adversary to whom he can show fight. Souther calls attention to the various reflexes which should be watched and to the methods of resuscitation. He also mentioned briefly the treatment of patients after anesthetization.

St. Louis Medical Review.

July 1.

36 [illegible] gica. A. Rose, New York.
37 [illegible] Bladder (Spontaneous and Traumatic; [illegible] eration). B. M. Ricketts, Cincinnati.
38 [illegible] C. L. Tuckey, London, England.

July 8.

39 *Inflammatory Conditions of the Appendix Accidentally Brought to Light in Pelvic Operations. H. Robb, Cleveland, Ohio.
40 Migratory Uterine Fibroids. R. Peterson, Ann Arbor, Mich.
41 Rupture of the Gall Bladder (Spontaneous and Traumatic, with and without operation). B. M. Ricketts, Cincinnati.

39. **Inflammatory Conditions of the Appendix.**—Robb states that in a long series of abdominal operations he has made it a routine procedure to examine the appendix, and if he finds it diseased, to remove it, the patient's condition permitting. In 1,000 abdominal sections for pelvic disorders Robb failed to find positive evidence that in a single case the appendix was the primary seat of disease. Of 370 appendices removed and examined microscopically, 103 were normal, 46 showed signs of a chronic and 1 of acute inflammation. In 88 cases there was a hypertrophy of the subperitoneal or internal coat, or of both coats. In 66 cases the changes were of doubtful significance. In 36 cases the lumen was occluded, in 16 dilated, in 12 the appendix contained concretions, in 1 case the appendix was cystic and had undergone myomatous degeneration, and in 1 case no lymphoid tissue was present.

Medical Fortnightly, St. Louis.

June 10.

42 Lupus Erythematosus — Lupus Vulgaris — Syphilis. J. V. Shoemaker, Philadelphia.
43 Deaf Mutes and the Instruction of the Deaf and Dumb. A. F. Koetter, St. Louis.
44 Relation of Man to Nature (A Study Prompted by "Testimonies of the Sepulchres"). A. S. Ashmead, New York.
45 Anatomic Eponyms. R. S. Gregg, Chicago.

Oklahoma Medical News-Journal.

June.

46 Medical Ethics and Common Sense. A. K. West, Oklahoma City.
47 New Lower Jaw Splint. I. B. Bartle, Carmen, Okla.

Cleveland Medical Journal.

June.

48 Anchylosing Arthritis of the Spine—Its Pathology, Recognition, and Treatment. H. O. Feiss.
49 Hyoscin Treatment of Drug and Liquor Habits. H. G. Wagner.
50 Waste of Time Incident to Defective Vision. L. K. Baker, Cleveland.
51 Microscope and Micro-Photography. F. D. Snyder, Ashtabula.

Journal of Mental Pathology, New York.

June 8.

52 Heredo-Syphilis. Form—Infantile Multiple Sclerosis. S. De Sanctis, and Dr. G. L. Lucangeli.
53 Clinical Observation on a Rare Case of Phobia. P. Timpano.

American Journal of Obstetrics, New York.

June.

54 Details Regarding the Operation of Cesarean Section in Cases of Contracted Pelvis, Based on a Series of Thirty Cases. J. M. M. Kerr.
55 *Cesarean Section in Late Labor. R. W. Holmes, Chicago.
56 *Six Cases of Cesarean Section. J. B. De Lee, Chicago.
57 Study of Four Hundred Cases of Tuberculosis in Children. S. S. Adams, Washington, D. C.
58 Three Cases of Repair of Injury to the Ureter; Two by Transplantation into the Bladder, and One by End-to-End Suture. A. L. Smith.
59 Repeated Tubal Pregnancy. E. N. Liell, Jacksonville, Fla.
60 History of the Obstetric Forceps. H. G. Partridge, Providence, R. I.
61 *Use and Abuse of the Uterine Curette. R. P. McReynolds, Philadelphia.
62 Paul Portal, His Life and Treatise on Obstetrics, with Reflections on the Science or the Obstetrical Art in France from the Renaissance to the Eighteenth Century. C. G. Cumston, Boston, Mass.

55. **Cesarean Section in Late Labor.**—Holmes believes that this procedure is not a justifiable one and that the appropriate time for abdominal hysterectomy is at term before labor has begun or not long after active contractions have been in progress. The contraindications to the Cesarean section in late labor center in the following facts: Prolonged labor lowers the woman's resistance to shock; conduces to atony of the uterus, therefore to hemorrhage, occasionally necessitating hysterectomy; it develops certain effete substances, which are eliminated more slowly than they are produced, and which lower immunity by a species of autointoxication. During protracted labor certain secretions are poured into the uterus and vagina which offer excellent culture media for the development of bacteria normally present in the parturient canal, or introduced by examinations. After the membranes are projected through the os externum, or the head has molded into the os, they are exposed to the contamination of the vagina;

in removing the secundines and the child through the uterine incision they may soil the peritoneum or wound. The prolonged labor frequently is the determining factor in the death of the child, or so jeopardizes its life that its prospects are curtailed. Holmes deprecates the Cesarean section performed with inadequate assistance, filthy surroundings and makeshift facilities. An emergency operation should not be done unless there be very pressing indications.

56. Cesarean Section.—De Lee is of the opinion that the results obtained in 10 cases of Cesarean section encourage one to extend the field of this operation. Of these 10 cases, 9 mothers recovered and 9 babies lived. One child died in sixteen hours under symptoms of acute sepsis, though the mother recovered. The one patient who died had been in labor three days, had been examined under ether three times, and had a solid tumor of the ovary blocking the pelvis completely. The technic of the operation varied but little in each case. The transverse fundal incision was used only twice. The uterus was amputated three times, once for obstruction to the lochial flow and twice because of a severe vaginitis. One ovary was left in each of these cases to preserve the ovarian function as long as possible. The uterus was delivered through the incision in all the cases, but the abdomen was closed in three layers and no hernia has developed in any of the cases.

61. *Use and Abuse of Uterine Curette.*—*McReynolds' article* is based on the study of 170 cases of curettement. He uses the sharp curette almost exclusively, but occasionally finds use for a large, dull curette. Endometritis hyperplastica chronica or polyposa, subinvolution of the uterus, and puerperal conditions of the endometrium caused by the retention of some of the products of conception, yield promptly, as a rule, through a thorough and careful curettement, unless there is already present disease of the adnexa or a general septic infection. McReynolds scarcely ever finds it necessary to leave a packing of gauze in the uterine cavity, and when he does so he invariably removes it within twelve hours. In malignant growths not permitting a radical operation, a careful curettement and the free use of the cautery, followed by chlorid of zinc, has yielded surprisingly good results in his hands; the pain, foul discharge and hemorrhage are relieved; life is rendered much more comfortable and is lengthened materially. In curettement for diagnostic purposes his results have not been entirely satisfactory. In septic conditions, when the infection has passed through the endometrium into the muscle of the uterus to the Fallopian tube or to the cellular tissue around the uterus, or has been carried by the lymph vessels through the ovaries or elsewhere over the body, no appreciable benefit comes from the curettement, except to establish the diagnosis and to prove that the uterine cavity is free from all decomposing and septic material. In endometritis accompanying the submucous fibroids he has failed to see a curettement do any permanent good. In gonorrheal endometritis he has obtained anything but satisfactory results from curetting the uterus and swabbing out the cavity with pure carbolic acid, tincture of iodin, etc. In chronic endometritis McReynolds advocates a radical operation from the start, having seen but one case benefited by curettement. In dysmenorrhea from pathologic collections, the result from a dilatation and curettement are good. Major operations on the adnexa should be preceded by curettement of the uterus, unless there is some contraindication.

Interstate Medical Journal, St. Louis.

June.

63 [illegible] lack, Galesburg.
64 [illegible] H. Wilson, Nashville, Tenn.
65 [illegible] Report of Five Successful Nephror- [illegible] Peoria, Ill.

64. Laryngeal Diphtheria.—The objects of Wilson's paper is to emphasize the importance of early mechanical relief when mechanical obstruction threatens life. It is wrong to delay until the pressure is marked. Rapidity of progress is the characteristic feature of this form of diphtheria. Intubation is not a difficult procedure and can be learned easily by practice; yet in no other operation does skill show to better advantage. An early operation, though possibly awkward, is better than waiting to give a moribund patient to an imported consultant.

American Journal of Surgery, New York.

June.

66 *Appendicostomy. J. P. Tuttle, New York.
67 Remarks on Origin of Malignant Growths; with a Note on the Treatment of Malignant Ulcerations by Balsam of Peru. P. F. Eve, Nashville, Tenn.
68 Diagnosis and Reducibility of Inguinal Hernia. W. B. DeGarmo, New York.
69 Paraffin in Surgery, A Critical and Clinical Study (Continued). W. H. Luckett and F. I. Horn, New York.
70 Surgical Treatment of Gastric Ulcer. J. F. Erdmann, New York.
71 Keloid of Female Breast. E. Lanphear, St. Louis.
72 Submucous Resection of Deviated Nasal Septum. S. Yankauer, New York.

66. Appendicostomy.—The technic employed by Tuttle is as follows: The patient having been prepared as for the "interval operation," the abdomen is opened by the intermuscular method; an incision one and one-half inches long is sufficient in all uncomplicated cases. The appendix having been found and brought out over the skin, its artery is tied and the mesentery stripped down to its junction with the caput coli; a suture is then passed at the lower angle of the wound through the peritoneum, the muscular wall of the cecum at its juncture with the appendix and back through the peritoneum on the opposite side of the wound, a second suture is then passed about one-half inch above the other, through the same tissues but on the upper side of the appendix. These two sutures being tied, the peritoneum is closed by continuous suture and the wound is closed by through-and-through or layer sutures, as the operator prefers; finally, one suture is passed through the skin and the muscular wall of the appendix on either side of the wound. The appendix is then wrapped in protective tissue, the upper angle of the wound is sealed by protective tissue and chloroform, and a simple dry dressing is applied. In thirty-six hours the dressing is removed and the appendix is cut off, about one-fourth of an inch from the skin of the abdomen. It will usually be found more or less gangrenous at its tip on account of the main artery having been cut off. Some small dilating instrument is introduced through the caliber of the appendix into the cecum, and this followed by the introduction of a No. 10 to 12 soft rubber catheter. This should pass in about four inches; a little silk thread should then be thrown around the protruding portion of the appendix and tied firmly around the catheter in order to prevent any escape of feces or intestinal fluid along the sides of the tube. This also serves to cut off the stump of the appendix flush with the skin. The catheter should protrude from the skin about two inches and should be fastened with a safety pin in order to prevent its slipping in either direction. The operation can be done quickly, it affords ample access for irrigation and medication of the colon, and the disagreeable features of artificial anus are practically eliminated. The opening does not close spontaneously and yet it can be closed by cauterizing the mucous membrane when advisable. Irrigation may be begun any time after catheter is introduced.

Journal of the Association of Military Surgeons of the United States, Carlisle, Pa.

June.

73 Treatment of Abdominal Injuries with Special Reference to Gunshot Wounds of the Liver. J. E. Summers, Jr., Nebraska N. G.
74 Hernia in the Italian Army. Col. P. Imbriaco., R. I. A.
75 Pulmonary Tuberculosis: Its Diagnosis and Course Under Favorable Climatic Conditions. E. D. Sinks, U. S. A., El Paso, Texas.
76 Fracture of the Head of the Radius. C. E. Banks, P. H. and M.-H. S.
77 United States Naval Hospital Ship Relief, with Some Notes on Hospital Ships. W. C. Braisted, U. S. N.
78 *Operation for the Radical Cure of Congenital Inguinal Hernia. A. C. Smith, P. H. and M.-H. S.
79 Extemporized Operating Room. M. A. Rebert, U. S. V.

78. Radical Cure of Congenital Inguinal Hernia.—Smith has devised an operation for the radical cure of congenital inguinal hernia which he employed in four cases(out of 63 hernias operated on in 60 patients). The method is as follows: After forming a tunic for the testes out of the lower end of the sac, the remainder of the sac, except the strip which lies immediately on the vas and its vessels and nerves, is trimmed away close to the abdominal cavity. The simple wound of the peritoneum which results is closed with a continuous suture, one extremity ending at the cord. The transversalis fascia is sutured either with the peritoneum or separately, and the operation is proceeded with according to the

Bassini method. The strip which is left attached to the cord consists of peritoneal membrane and does not interfere with the closure of the openings in the sac. There is no more difficulty in closing the peritoneal wound completely and securely than in any other situation.

Journal of Nervous and Mental Disease, New York.

June.

80 *Dementia Præcox. R. Sachs, New York.
81 Traumatic Cervical Hematomyelia and Complete Division of the Cord, with Probable Dislocation of Fifth Cervical Vertebra. C. S. Potts, Philadelphia.
82 Medical Treatment of Insanity. R. Jones, Claybury, England.

80. **Dementia Praecox.**—Especial stress is laid by Sachs on the following points: There are unquestionably many cases that correspond accurately to the types described by Kraepelin and his followers. This is particularly true of the earlier forms of mental derangement occurring in members of families in which there is a very marked psychic taint. Even in such individuals, however, many years pass before appreciable dementia sets in. The term should be carefully restricted to those cases in which mental deterioration at an early stage of the disease is clearly recognizable and should be carefully considered and if possible avoided in those cases in which a dementia may possibly be developed in the far distant future. Making the diagnosis of dementia praecox put the stamp of an incurable malady on individuals who may be sufficiently alert to be useful to themselves and to others for a long period of years, and in that sense does them a distinct injustice. There seems to be little gain in grouping widely different conditions under one heading simply because the individuals so afflicted are in the first third of life. The older plan of clinical subdivision is more commendable, and the tendency to dementia should be insisted on only when there is reason to think that a deterioration is certain to develop at a relatively early period.

Archives of Pediatrics, New York.

June.

83 *Etiology and Classification of the Summer Diarrheas in Infancy. C. H. Dunn, Boston.
84 *Fat in Its Relation to the Production and Cure of Infantile Marasmus. H. Stern, New York.
85 Albumin in the Urine of Apparently Healthy Children; Renal [illegible] anges in Children as Seen in South- [illegible] Edwards, Los Angeles.
86 * [illegible] W. G. Elmer, Philadelphia.

83. **Summer Diarrheas in Infancy.**—Dunn states that the diarrheal diseases of infancy occurring in the summer months differ in no way, either clinically or anatomically, from the diarrheal diseases occurring in the cooler months, except in their much greater frequency. Classification on an anatomic basis, as for example into functional and organic, or noninflammatory and ileocolitis is not convenient for etiologic study, owing to the variety of lesions found in cases of similar etiology and similar clinical course, and to the lack of correspondence between the anatomic and clinical pictures. The following clinical classification is suggested: (a) Acute nervous diarrhea, characterized by loose stools of normal color and odor, without abnormal constituents. (b) Irritative diarrhea. Acute intestinal indigestion of the irritative type, characterized by the absence of persistent fever, and by the presence of curds and undigested masses in the discharges. (c) Fermental diarrhea. Acute intestinal indigestion of the fermental type, characterized by the absence of fever, and by green stools of a foul or sour odor. (d) Infectious diarrhea, characterized by the existence and persistence of fever, and by the tendency toward early signs of ileocolitis, as shown by the presence of blood, and excess of mucus in the discharges. When a specific organism, the *Bacillus dysenteriæ*, is proved to be the cause, the case may be further particularized by the term infantile dysentery. (e) Rare cases occur, corresponding to the known description of heat exhaustion and cholera infantum. Of the above differentiated types, the indigestion, including the irritative and fermented cases, is by far the commonest. The chief or primary cause of all the above types is the increased heat of the weather occurring during the summer months, which probably acts in the noninfectious cases by producing functional disturbance either of the nervous system or of the digestion; and which acts in the infectious case by producing in the intestine conditions more favorable to the occurrence of infection. The name thermic diarrhea can be given to the entire group. Bacteria are the secondary cause of a certain number of cases, such cases being mainly, if not wholly, of the type classified clinically as infectious. Infection occurs by the introduction of bacteria from without, or by autoinfection with bacteria already in the intestine. The latter is probably the usual method. The *Bacillus dysenteriæ* is a cause of most of the infectious cases. Whether it is the sole cause remains to be determined. The *Bacillus dysenteriæ* can often be found in the intestine in cases in which it probably has no causal relation with the pathologic process. Such cases are usually clinically of the non-infectious type. Other organisms are probably a cause of some infectious cases. The anatomic changes of various kinds included under the term ileocolitis may occur in any of the above clinical types except the acute nervous. Anatomic changes of some kind probably occur in all infectious cases.

84. **Relation of Fat to Infantile Marasmus.**—The data which may be gleaned from Stern's paper are the following: The overwhelming majority of cases of infantile marasmus occur in artificially nourished children. The gastrointestinal disturbances underlying infantile atrophy are very often due to the character of the food and not infrequently to its fatty contents. While the quantity of fat ailment has found frequent practical consideration, the chemical character of the fatty substances entering into the baby's nutriment have hardly ever been inquired into by the clinician. The composition of the fat of cow's milk is greatly at variance with that of the fat of human milk, differing especially in its far greater contents of volatile fatty acids, among which butyric acid is the most important. Butyric acid is the mother substance of the acetone bodies to the presence of which a number of disorders to which the infant is prone have been ascribed by various observers. Butyric, caproic, caprylic and capric acids are contained in the fat of cow's milk in from six to eight times the amount in which they are present in that of human milk. The infantile organism can not cope successfully with the fat of cow's milk even in a mere physical sense. This is evidenced by the decidedly smaller absorption of the fat compound derived from cow's milk than from human milk. The occurrence in the feces of absolutely and relatively larger amounts of fat of cow's milk is *prima facie* evidence of its more incomplete utilization by the youthful organism. As the physical and chemical properties of the milk fat are dependent on the absolute and relative amount of lower and higher and uncombined fatty acids, it is evident that the vast discrepancy existing between the constitution of cow's milk fat and mother's milk fat can not be overcome by any possible modification of the former. Apart from the butyric acid origin of the acetone bodies we find that the volatile fatty acids as furnished by the fat of cow's milk are decided irritants of the delicate intestinal mucosa of the infant. The ingestion of these acids, therefore, is the primary cause of many instances of gastrointestinal irritation and disease followed by undernutrition and bodily retrogression. Alteration in the fat supply as exercised to-day is almost without exception a quantitative one, consisting of reduction, suspension and even increased supply of fat ailments. Withdrawal of milk fat in handfed infants frequently results in cessation of the local disturbance. It is obvious, however, that the infant can not exist for any length of time without fatty ingesta of some kind. Furthermore, the incipient marasmic condition can not be relieved unless a sufficient amount of assimilable fats yielding but insignificant amounts of volatile fatty acids is added to the nutriment. Yolk fat seems to be the ideal fat for infants suffering from chronic gastrointestinal disturbance together with latent or even pronounced athrepsia infantum. Yolks should not find employment in the newborn nor in the infant which thrives on the physiologic nutriment or on a modification of cow's milk. Yolks should be used only in those pathologic conditions which may lead to athrepsia infantum and in those which are due to or aggravated by the fat constituents of the nourishment. There are two essentials which must be followed for good results from the ingestion of yolks, viz., the yolk fat must completely replace the milk fat,

and the amount of yolk fat, without being in excess, must be adequate, that is, it must conform to the caloric and nutritive demands of the organism. The electrical conductivity of skimmed milk plus physiologic amounts of yolk fat is probably somewhat greater than that of native milk.

86. **Etherization of Children.**—According to Elmer, there are but few occasions in which ether may not be given to children in preference to other anesthetics. The most important of these is an abnormal state of the respiratory organs, as in acute bronchitis, pulmonary congestion or pneumonia. The preparation of children for the operation and anesthetic does not differ materially from that of adults. Solid food should be absolutely forbidden on the day of operation. If an operation is fixed for 11 o'clock in the morning, a cup of broth may be given at 7, unless there is some definite reason for not doing so, and water may be given at the same time. The fluids are promptly absorbed from the stomach, and four hours later the child should be in excellent condition for the anesthetic. The open method of administration is the one which should be adopted always. In order to lessen shock and to preserve bodily heat and energy the vital activity of the tissues should be kept up to its highest point, and for this purpose an abundance of oxygen is necessary. This can best be supplied by pure fresh air. The smaller size of Allis inhaler should be used. This should have a clean, folded towel pinned closely about it, and permitted to extend about an inch below the lower margin of the cone. The open end of the cone should always be allowed to remain free and unobstructed, admitting pure air without restraint. If the child is very much reduced from prolonged disease, and the operation is apt to be a long and dangerous one, every precaution must be taken to preserve the vital forces. The child's body should be swathed in cotton batting or an electrotherm may be used on the operating table. There must be absolute quiet in the room, and only the anesthetist and the nurse should be present. The article closes with specific directions as to the method of etherization and how to meet emergencies.

Virginia Medical Semi-Monthly.

June 9.

87 *The Use of the Uterine Curette. J. W. Bovée, Washington, D. C.
88 Treatment of Neurasthenia. J. A. Hodges, Richmond, Va.
89 Static Electrical Treatment of Neurasthenia. R. W. Miller, Barton Heights, Va..
90 Myoma of Uterus. J. M. Hundley, Baltimore, Md.
91 Tuberculosis Among the Mountains of Southern West Virginia. J. W. Preston, Keystone, W. Va.
92 Closure of Abdomen by Longitudinal Suture. E. B. Claybrook, Cumberland, Md.
93 Chronic Suppuration of Middle Ear. F. M. Cunningham, Macon, Ga.
94 Abscess of the Liver. M. E. Nuckols, Richmond, Va.
95 Principles of Surgery. S. McGuire, Richmond, Va.

87. **Use of Uterine Curette.**—As the result of an extensive experience, Bovée says he has developed the curette touch. The dull variety is to be used for the removal of shreds of tissue after abortion or miscarriage. The sharp serrated ininstrument becomes necessary in the removal of intrauterine growths. The plain, sharp curette is employed in all forms of endometritis not associated with malignant disease of the uterus that does not spring from the mucosa, carcinoma of the body, pedunculated submucous fibroids, mucous polypi, subinvolution, metritis and chronic passive uterine congestion. The dull, serrated curette is applicable to practically all the conditions for which the plain, dull curette is used, and is by some considered preferable. These, Bovée says, are practically all the conditions in which uterine curettage is applicable. Doing curettage in the office and sending the patient home afterward he considers malpractice, inasmuch as the technic of such a procedure must be very faulty and the danger of the infection enormously enhanced.

Kansas City Medical Index-Lancet.

June.

96 Etiology and Pathology of Acute Articular Rheumatism. L. G. Taylor, Kansas City, Mo.
97 Diagnosis and Prognosis of Acute Articular Rheumatism. A. Miller, Kansas City, Mo.
98 Complications of Acute Rheumatic Fever. F. Murphy, Kansas City, Mo.
98½ Treatment of Acute Articular Rheumatism. B. H. Zwart, Kansas City, Mo.
99 What Shall We Prescribe? R. P. Walker, Belton, Mo.

Postgraduate, New York.

June.

100 Epidural Abscess. W. S. Bryant, New York.
101 Transthoracic Resection of the Lower End of the Esophagus in a Dog. W. Myer, New York.
102 Case of Poliomyelitis with Multiple Deformities Corrected. H. L. Taylor, New York.
103 Case Showing the Result of the Stacke Operation for Chronic Suppuration of the Middle Ear. W. C. Phillips. New York.
104 Case of Diffuse Idiopathic Atrophy of the Skin and Scleroderma. W. B. Brown, New York.
105 Card System for Patient's Histories. G. G. Ward, Jr., New York.
106 Case of Congenital Cohesion of the Labia. Id.
107 General Practitioner's Diagnosis of Nasal Sinus Disease. H. B. Douglass, New York.

Archives of Physiological Therapy, Boston.

May.

108 Effect of the X-ray on Pregnancy. S. Tousey, New York City.
109 Value of X-ray in the Treatment of Tuberculosis. H. K. Pancoast, Philadelphia.
110 Interpretation of Radiographs of the Chest. P. M. Hickey, Detroit, Mich.
111 Notes on X-light. W. Rollins, Boston, Mass.
112 Portable Illumination Box. G. E. Pfahler, Philadelphia.

California Medical and Surgical Reporter, Los Angeles.

June.

113 History of Syphilis. R. Williams, Los Angeles.
114 Primary and Secondary Lesions of Syphilis. R. Wernigk, Los Angeles.
115 Moral Aspects of Syphilis. G. MacGowan, Los Angeles.
116 Syphilis of the Nervous System. R. Moore, Los Angeles.
117 Syphilis of the Eye and Upper Air Passages. H. B. Ellis, Los Angeles.
118 Syphilis of the Bones. J. Kurtz, Los Angeles.
119 Syphilis of the Placenta. T. J. Coffey, Los Angeles.
120 General Treatment of Syphilis. C. D. Lockwood, Pasadena, Cal.

Louisville Monthly Journal of Medicine and Surgery.

June.

121 Intranasal Deformity and Redundancy and Their Relations to Diseases of the Upper Air Passages. T. L. Brunk, Birmingham, Ala.
122 Diabetic Gangrene. H. H. Grant, Louisville, Ky.
123 Grip. B. C. Frazier, Louisville, Ky.
124 Visit to New Mexico. G. H. Chapman, Uniontown, Ky.

Illinois Medical Journal, Springfield.

June.

125 Ideals and the Practices of the Medical Profession. W. E. Quine, Chicago.
126 What We Must Learn and Unlearn in the Treatment of Tuberculosis. J. W. Pettit, Ottawa.
127 High Frequency in Insomnia. W. F. Somerville, Glasgow, Scotland.
128 Impotence and Sterility Due to Gonorrhea. F. A. Leusman, Chicago.
129 Relation of the Heart and Kidneys in Disease. C. E. Wilkinson, Danville.
130 Operative Treatment of Empyema of the Antrum of Highmore. O. T. Freer, Chicago.
131 Educational Treatment of Neurasthenics. C. D. Center, Quincy.
132 Nitrous Oxid-Ether Anesthesia. W. Van Hook, Chicago.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal.

July 1.

1 Presidential Address delivered before the Metropolitan Counties Branch. The British Medical Association and the Advancement of Science. A. Clark.
2 *Presidential Address delivered before the Lancashire and Cheshire Branch, Alcohol as a Therapeutic Agent. J. Barr.
3 Cold Effusion in Delirium Tremens. W. Broadbent.
4 Radium Bromid in the Treatment of Rodent Ulcer. A. R. Manby.
5 *[illegible] by the X-rays, with a record of four [illegible].
6 [illegible] of the Scalp by the X-rays. T. M. H. Macleod.
7 General Peritonitis Due to Perforative Appendicitis. A. W. M. Robson.

2. **Alcohol as a Therapeutic Agent.**—Barr states that it is impossible to foretell the action of alcohol in any particular case or to know whether it is going to do good or harm. He dissents from the popular opinion that constant use of alcohol confers immunity from its toxic effects and says that with increasing years men are able to stand less and less alcohol, while in advanced age the results of free imbibition are disastrous. From its irritating action on the nerves of the stomach alcohol may cause a temporary contraction of the splanchnic vessels and a slight rise in the general blood pressure. Once absorption takes place, however, it has a paretic effect on the vasomotor system and the arterial blood pressure falls. There

is then a rush of blood to the surface through the paretic vessels; the nerves and vessels lose their power of regulating the body temperature and consequently there is a large cooling surface which allows of a rapid lowering of the temperature. This effect may explain the value which some German physicians attach to the use of alcohol in conjunction with cold baths. Barr states that in pneumonia almost the only use of alcohol is as a specific. He also states that alcohol is not a food in the proper sense of the word and that the advice of the Apostle Paul to Timothy to take a little wine for the stomach's sake must have referred to a fairly dilute solution of alcohol, as we know that while strong potations increase the secretion of gastric juice they inhibit the digestive function. Barr refers at some length to the effect of alcohol in various diseased conditions.

5. **Leucocythemia Treated by the X-Rays.**—Melland reports 4 cases of this condition in which the *x*-rays were used, with good results in 3 cases. In each case the spleen diminished in size with improvement in the character of the blood, the degrees of improvement differing in the 3 cases. The improvement in the general health of the patients, however, was more marked and of greater importance than the changes in the blood or in the spleen. He states that though it is too soon to assert that permanent benefit has been conferred in these conditions, it can safely be asserted that great amelioration of the conditions may be secured and that even if complete cure be not effected, the patients may have months or even years of comfortable existence.

The Lancet, London.

July 1.

8 Diseases of the Heart. J. F. Goodhart.
9 *Reaction of Phenylhydrazin with Other Substances than Dextrose Occurring in the Urine. P. J. Cammidge.
10 Uric Acid: A Rational Treatment for Its Elimination in the Light of Recent Research. R. Fenner.
11 Recent Outbreak of Typhoid Fever at Lincoln. E. C. Clements.
12 Charcot's Disease of the Ankle in a Case of General Paralysis of the Insane. W. Billington.
13 Fracture of the Os Penis in Otters. J. Bland-Sutton.

9. **Reaction of Phenylhydrazin.**—Cammidge describes a modification of von Jaksch's phenylhydrazin test as follows: 0.5 gram of phenylhydrazin hydrochlorid and 1.5 grams of sodium acetate should be dissolved by gentle heat in a few cubic centimeters of water in a test tube and then from 5 to 10 c.c. of the urine added. The mixture is brought to the boiling point and maintained there for three minutes with strong, and five minutes with weak, solutions of sugar. The test tube is then set aside to cool and the deposit examined for osazone crystals in five or ten minutes. A "knife point" of sodium acetate is added to 10 c.c. of the urine, then from 1 to 2 c.c. of 10 per cent. acetic acid, and 5 drops of pure phenylhydrazin are introduced. The mixture is heated in the water bath or over the free flame in the same way as when hydrochlorid is employed. Cammidge also mentions Kowarski's modification of this test, which gives very satisfactory results and is more delicate. It consists in mixing five drops of pure phenylhydrazin in a test tube with ten drops of acetic acid, gently shaking and then adding about 1 c.c. of a saturated solution of sodium chlorid. To the solid mass that forms are added from 3 to 5 c.c. of the urine, and the test tube is heated in the free flame for two minutes after its contents begin to boil. On cooling, the osazone crystals separate from urines containing 0.2 per cent. of sugar in one minute, and from weaker solutions in about five minutes. In examining 100 normal urines Cammidge found that when heated in the water bath for an hour four of them showed a crystalline deposit, while by boiling in a free flame for five minutes six specimens gave a positive result. Using the same methods but shortening the period of heating to twenty minutes and two minutes respectively exactly the same results were obtained, so that the mere time or method of applying the heat can not be relied on to differentiate glycuronic acid from the sugar. Cammidge describes in detail his further researches on this subject and concludes by saying that it is evident that in phenylhydrazin we possess a most useful reagent for inquiring into variations in the urine accompanying certain changes in the metabolism.

Intercolonial Medical Journal of Australasia, Melbourne.

May.

14 Tuberculous Meningitis. W. H. Summons.
15 *Note on Goat's Milk. A. J. Wood.
16 Hysteria in Children. W. H. Summons.
17 Three Cases of Obstruction of the Small Intestine. A. E. Morris.
18 Case of Pylorectomy and Partial Gastrectomy—Posterior Gastro-Jejunostomy—Recovery. R. S. Stirling.

15. **Goat's Milk.**—Wood refers to the difficulty in all large cities of obtaining fresh milk for infants and advises the use of goat's milk for bottle-fed infants. He states that a number of infants under his care have been fed through the whole summer on pure goat's milk and have never had diarrhea. He says that the mother of one of the children reported that the child digested the milk without the least sign of flatulency when it was given warm from the goat, while the digestion was not so easy if the milk had stood for some hours. He says that most children can digest goat's milk undiluted and that while taking it they gain in weight and development. He calls attention to the custom in Switzerland and in some parts in Italy of shaving the udders and allowing the babies to nurse directly from the goat.

Annales de Dermatologie, Paris.

Last indexed XLIV, page 1407.

19 (VI, No. 3.) *Recherches sur l'alopécie atrophiante, variété pseudo-pelade. L. Brocq, Lenglet and Ayrignac. (Commenced in No. 1.)
20 De quelques altérations cutanées determinées par l'enveloppement humide (sudamina de maceration). C. Audry.
21 (No. 4.) *Sur le processus histologique des radio-épithélites (action des rayons X sur l'épiderme normal et sur les tissus epitheliomateux). E. Dalous and J. Lasserre (Toulouse).
22 De la compression en photothérapie. (Un nouveau compresseur mécanique enregistreur.) M. Mezerette.
23 (No. 5.) *La symbiose fuso-spirillaire. H. Vincent (Val-de-Grâce.)
24 Dermatite pustuleuse prémycosique. C. Audry (Toulouse).

19. **Atrophic Alopecia.**—An illustrated description is given in this article of a new clinical form of atrophic alopecia, for which the term "pseudo-pelade" is adopted. It is a process of atrophy and sclerosis affecting the hair-covered regions of the body, especially the scalp, terminating in patches of baldness, smooth, of pseudo-cicatricial aspect. It seems to be closely allied to erythematous lupus and keratosis pilaris. The article is based on three cases.

21. **Action of X-Rays on the Tissues.**—The microscope reveals that there are certain special lesions due to the action of the Roentgen rays on the epithelium, an actual "radio-epithelitis," as Dalous styles it. Similar modifications occur in the tissue of a neoplasm, and as they develop they induce a macrophagic connective-tissue reaction. All the cells of the neoplasm do not feel the effect of the rays to the same degree, some being more sensitive than others. In the sound epithelium the basilar layer, or *stratum germinativum*, and the cells of the mucous layer, immediately above, are affected most, and the corresponding cells in an epithelioma. On the other hand, the cells of the prickle layer and of the horny layer are too firmly interlocked and too large to be effectually attacked by phagocytosis. The latter process, besides, seems to be secondary in importance. The histologic findings described explain why epitheliomata of the type of the cancroid and the squamous epithelioma are less favorably influenced by radiotherapy than epitheliomata of the basocellular type, columnar epithelioma and rodent ulcer. The Roentgen rays are decidedly elective in their action. The most sensitive cells in the neoplasm are those which are derived from cells which normally are most sensitive to the action of the rays. In cutaneous epitheliomata, therefore, the squamous and the columnar types, the former are resistant to the *x*-rays and the latter succumb to them, corresponding to the elective action of the *x*-rays on the cells of the sound epidermis.

23. **Association of the Fusiform Bacillus and a Spirillum.**—Vincent has been continuing his researches on the symbiosis of the fusiform bacillus and a spirillum which induces the affection known as Vincent's angina. Its occurrence has been reported in all countries, generally affecting persons between 18 and 30. His own experience has been that it forms 2.26 per cent. of all cases of sore throat. The fusiform bacillus is a normal inhabitant of the buccal cavity, it is ubiquitous, like

the tetanus bacillus, and, like the latter, requires special conditions for its development. These conditions are depressed vitality from any cause, starvation, cachexia, or chemical or microbian intoxication, with a lesion caused by some other microbe. When the organic defenses are broken down, the fusiform bacillus installs itself and is liable to proliferate to an amazing extent, causing vast suppurations when air does not reach the parts. In 17 cases of subperiosteal dental suppuration he found this fuso-spirillar symbiosis in 7 instances, and once in pure cultures. This symbiosis was also found in 11 out of 19 cases of appendicitis, in periostitis of the tibia or fetid abscess of the leg, etc. He is convinced that noma and gangrene of lungs or pleura are the result of fuso-spirillar infection. The angina due to this symbiosis he regards as a kind of hospital gangrene of the mouth. The superficial lesions are identical under the microscope, but in the depths the fusiform bacillus vegetates alone, with a necrobiotic and hemorrhagic action. He adds the literature, which amounts already to 131 articles since his first publication in 1896. Inoculation of a healthy person with hospital gangrene or the fuso-spirillar combination induces merely an insignificant reaction and lesion.

Berliner klinische Wochenschrift.

25 (XLII, Nos. 24-25.) *Pathologische Anatomie und Infektions-Weg bei der Genickstarre (epidemic cerebrospinal meningitis). Westenhoeffer. Id. und Bekämpfung (prophylaxis). M. Kirchner. Id. Grawitz.
26 *Zur Pathogenese der Lungen-Tuberkulose. F. Weleminsky (Prague).
27 Schwierigkeiten der Indikations-Stellung zur Operation bei Jackson'scher Epilepsie. W. Vorkastner.
28 *Ocular *Disturbances in Epidemic Cerebrospinal Meningitis.*—Augenstörungen bei der Genickstarre. Heine (Breslau).
29 Fall von Bronchial-Kolik infolge Broncho-Lithiasis. A. Muszkat.
30 *Dr [illegible] und Ret-[illegible]
31 *Pr [illegible] r Hämolyse
32 Pr [illegible] rocess.—Die [illegible] Prozess. H. Lüdke.

25. Epidemic Cerebrospinal Meningitis.—Westenhoeffer's report on 29 autopsies of victims of the epidemic was mentioned on page 1996 of the last volume of The Journal.

26. Pathogenesis of Pulmonary Tuberculosis.—Weleminsky's research has revealed the exceptional position occupied by the bronchial glands in the lymphatic system. Guinea-pigs were infected with tuberculosis at various points and the glands examined later. It was found that the infection never occurred through the blood, but always by way of the lymphatics. The bronchial glands seem to be the terminal reservoir not only for the lung lymph, but also for the lymph from the rest of the body, before it is poured into the blood system. When animals were inoculated in the peritoneum, rectum or subcutaneously in the groin, at first it seemed as if the infection followed an arbitrary, erratic course, but the discovery of hidden glands showed the regular sequence of the progress of the infection, without an exception, in his last 300 experiments. The bronchial glands are like a kind of heart, into which the lymphatics from all sides discharge their contents, including tubercle bacilli from remote points of entrance.

28. Ocular Symptoms in Epidemic Cerebrospinal Meningitis.—Heine writes from the eye clinic at Breslau in regard to the ocular disturbances noted in an experience of 100 cases of epidemic cerebrospinal meningitis. The pseudo-glioma characteristic of this disease leads to atrophy of the eyeball, but, although the eye is blind, it is not disfigured and never requires operative interference. This form of severe metastatic ophthalmia never entails sympathetic ophthalmia. This finding is so characteristic of epidemic cerebrospinal meningitis that we may almost conclude from it in regard to the pronounced or abortive occurrence of the disease at some past time. In his experience, with a single exception, it has been unilateral, but the milder affections, which do not reach this severe stage, frequently appear in both eyes. The one exception was a child, blind and deaf as the result of the disease, with bilateral pseudo-glioma. He reviews the experiences at other hospitals throughout Silesia. In every 100 patients, 20 presented ocular symptoms, the total list including 15 involving the motor apparatus, 10 the optic nerve tract, and 5 the interior of the eye. In his own 100 patients, optic neuritis and disturbances in the retina were observed in 9 patients and were probable in 5 more. In 13 there were nystagmus, strabismus or paralysis, etc., probable in 2 more, and unilateral ophthalmia in 3, bilateral in 2, the total being 21 patients, with 27 positive and 7 probable ocular disturbances. In conclusion, he reviews what has been written lately on the subject. He has never had occasion to see some of the symptoms described by other authors, such as edema of the conjunctivæ and subepithelial infiltration of the cornea. He calls attention to the rarity of winking, especially at the onset of the disease. It may aid in differentiation.

30. Death from Drowning.—Margulies shows that the first phase of drowning—that of arrested respiration—lasts from 31 to 76 seconds, according to different authors. The second stage, that of dyspnea, lasts from 60 to 150 seconds, Brouardel favoring the shorter time. The drowning man breathes deep, with open eyes, and swallows water. The third stage—that of asphyxia—lasts for one minute, according to Brouardel, and the terminal respiratory movements for about 30 seconds longer. Rescue during the first minute of drowning has every chance of success; the chances during the second minute are less favorable, and after the beginning of the third minute they grow more and more dubious. Brouardel has further established the fact that when an animal is drowned after excessive muscular fatigue these various stages of the drowning succeed each other in less than half the time required in normal conditions. One factor that prolongs the act of drowning is that the drowning person is liable to come to the surface and get a breath of air, thus postponing the terminal stage. In sea bathing, to prevent accidents from drowning, Margulies advises that attendants be stationed where they can reach a drowning person in less than one minute. No time should be wasted in throwing life preservers, but the attendant must be ready with a boat. As the interval is so much shortened in case of fatigued muscles, a narrow limit should be set for the swimmers, any one passing beyond that limit doing so at his own risk, on account of the inability to reach him in the half of the brief interval on which one can count in the case of other drowning persons.

31. Hemolysis in Relation to Practical Medicine.—Hahn's numerous experiments and experiences with human volunteers confirm Koeppe's assertions in regard to hemolysis from acids and heat. He further concludes that alcohol is a decided poison for the blood corpuscles, inducing hemolysis proportionately to the concentration and, with a given concentration, proportionately to the temperature. The intensity of the hemolytic action is further dependent on its duration. When supplemented by the action of chloral, the alcohol hemolysis is reinforced. The superposed action of alcohol and chloral—even at normal temperatures—suggests the advisability of caution in administering chloral to alcoholics, and also in case of fever. The alcohol further diminished the resisting power of the red corpuscles and rendered them more susceptible to other injurious influences. The melting point of the blood corpuscles was lowered in proportion to the concentration. He believes that the alcohol plus chloral dissolves out the fatty elements in the wall of the blood corpuscles, thus inducing hemolysis by another mechanism from that of the osmosis of water hemolysis.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

33 (XXXI, No. 23.) *Die Behandlung der puerperalen Infektion. v. Rosthorn.
34 Der günstigste Zeitpunkt der Appendicitisoperation (moment for operating). L. Arnsperger.
35 *Zur Pathogenese der Hirschsprungschen Krankheit. J. Ibrahim.
36 *Pseudo-leukemic Affections due to Tuberculosis.—Ueber die durch Tuberculose bedingten pseudoleukämischen Erkrankungen und ihre Behandlung mit Neu-Tuberculin. O. Reunert.
37 Weitere Mitteilung über Syphilis-Impfung am Pferde (inoculation of horse). Piorkowski.
38 Testing Sense of Taste.—Eine neue Methode zur klinischen Prüfung des Geschmackssinnes mittels eines Gustometers. W. Sternberg.
39 Results of *Koch's Research on African Horse and Cattle Disease.*—Küstenfieber der Rinder und Pferdesterbe. F. K. Kleine.
40 *Zur Geschichte der epidemischen Cerebrospinal-meningitis (history). A. Gottstein.
41 Study and Practice of *Medicine in Italy.* Carrara.

33. **Puerperal Infection.**—Rosthorn passes in review the various methods of treating puerperal infection, remarking in regard to intravenous infusion of a solution of formol that this method of treatment has been discarded on account of its dangers, demonstrated by experiments on animals. He is convinced that intravenous injection of the silver salts is perfectly harmless, with good technic, but that their action is unreliable. They probably act by their chemotactic inhibiting influence on the bacteria, but enormous quantities of leucocytes are sacrificed in the struggle. If the blood-forming organs are unequal to the task, then the drug fails to cure. There is also a possibility of some electro-catalytic action. On account of its harmlessness and our helplessness generally, the method should be given a trial and not be dropped too quickly. He gives, in a table for comparison, the details of the six antistreptococcus sera on the market, Marmorek's, Aronson's, Tavel's, Moser's, Meyer's and Paltauf's. The reason why serum treatment fails so completely in one case and succeeds so brilliantly in an apparently entirely similar case is a matter for further research. Tavel suggests that there may be a lack of cytases or leucocytes in the negative cases, and that it may be possible to supply the missing elements when we learn which they are.

35. **Congenital Dilatation of the Colon.**—Ibrahim gives illustrations of an infant with an abnormally long and flexible sigmoid flexure, inducing tympany and stagnation of feces. He regards the case as the initial stage of idiopathic dilatation of the colon.

36. **Pseudo-Leukemic Affections Due to Tuberculosis.**—Reunert remarks that the diagnosis of the tuberculous origin of a pseudo-leukemia affection is rarely made during life. In the case he describes, the presence of a tuberculous iritis suggested the advisability of treatment with "new tuberculin." This treatment not only cured the iritis, but with it also all the symptoms of the pseudo-leukemic affection, thus demonstrating its tuberculous nature. The first manifestations of the affection were noted in the spleen and glands, predominantly the former. Nothing suggested tuberculosis until the iritis developed. It was not influenced by antisyphilitic treatment, and tuberculin was tentatively tried on the assumption that the ocular affection had possibly developed secondarily. The prompt healing of the iritis and, with it, the vanishing of all the pseudo-leukemic symptoms cleared up the diagnosis. The ocular affection is entirely healed, but whether the glandular affection has healed or merely entered on a phase of latency time alone will tell. The patient was a boy of 8. The new tuberculin was used according to von Hippel's technic, as described in the *Archiv. f. Ophthalmologie*, lix, No. 1, which is free from all danger. The injections commence with 1/500 mg. of solid substance, repeating on alternate days, and increasing the amount by 1/500 mg. until 1/50 mg. is reached. The amount is then increased by 1/50 mg. until 1/5 mg. is reached, then gradually increasing to the maximal dose of 1 mg. The temperature is taken every two hours, and if the temperature rises by .5 of a Centigrade degree the same dose is continued until there is no temperature reaction. The patient was dismissed, cured, in about three and a half months.

40. **History of Cerebrospinal Meningitis.**—Gottstein says that the history of this disease can not be traced farther back than 1805; previously to that date it was probably confused with typhoid. He cites the older authorities and mentions that the exanthem was described even in the earliest epidemics.

Therapie der Gegenwart, Berlin.

Last indexed page 295.

42 (XLVI, No. 2.) *Zur therapeutische Anwendung (application) des Nitroglycerins. C. Binz (Bonn).

43 *Ueber den Wert des Formaldehyds für die interne Therapie.

44 zur Salicylbehandlung (die intra- Brugsch (Altona).

45 * chnupfens der Säuglinge (Infantile coryza). L. Ballin (Berlin).

46 Die Behandlung der chronischen Verdauungskrankheiten im Säuglingsalter (digestive disorders of infants). H. Roeder (Berlin).

47 Early Diagnosis of Orthopedic Affections and Its Importance.—Die Frühdiagnose bei orthopädischen Erkrankungen und ihre Bedeutung für die Prognose. G. Müller.

48 Die Behandlung der Gallensteinkrankheit (cholelithiasis). G. Klemperer (Berlin).

42. **Use of Nitroglycerin.**—Binz showed long ago that nitrates may be converted in the system to nitrites. This action is the basis of the therapeutic efficiency of nitroglycerin. The results of various investigations concerning the toxic power and fatal dose of nitroglycerin have shown great differences of opinion among clinicians. Some regard it as a poison equal to prussic acid or nicotin, while others have found a tolerance of doses much larger than those usually thought safe, and two cases have been observed in which large amounts were taken without harm. Binz found, by experiments on animals, that doses much larger than those used in medicine produced no toxic effect. Man may react more readily, and there may be great differences between individuals. Binz found that one set of tablets contained scarcely a trace of the drug, while another showed more than the required quantity. The dry form, therefore, should be discarded for an alcoholic 1 to 4 per cent. solution. Of these solutions, one drop should be used as the initial dose, which may be gradually increased. Each drop represents from ¼ to 1 mg. of the nitroglycerin. This drug has the advantage over sodium nitrite that it is not decomposed in the stomach, while it is more gradual in its action and more lasting in its effects than amyl nitrite. It has no explosive action when dissolved in alcohol, and, he thinks, may well supersede the nitrites.

43. **Value of Formaldehyd in Internal Medicine.**—Contrary to the views of previous authors, Rosenberg does not believe formaldehyd to be highly poisonous and corrosive. Hundreds of patients who came under his observation showed no toxic action, and in all cases in which the blood and urine were examined there was no evidence of toxic action, no casts, and no albumin or changes in the blood. Because of their different action, formol and formalin should be distinguished from formaldehyd. The toxic action previously attributed to formaldehyd is due to its irritating qualities, and even these depend on the manner of its use. The irritating quality can be removed by combining formaldehyd with another substance from which it may be gradually split off. Jacobson experimented with such a preparation and demonstrated that it is non-toxic. When properly administered, formaldehyd has never had any bad effect on the human organism, even in pathologic conditions, and usually proved beneficial. Rosenberg claims to have found a stable preparation of formaldehyd in a compound from which it is gradually split off in the organism. It is administered in tablet form, and he regards it as a great advance in medication. The pleasant-tasting tablet may be held in the mouth, chewed, or taken in solution, but should not be swallowed whole. He is convinced that its use might be successfully extended to typhoid. It has not yielded conclusive results in tuberculosis, but it has proved very effectual in his practice in the last few months. He has used it exclusively in 6 cases of diphtheria, in 7 of scarlet fever, 2 of erysipelas, 1 of pyemia, 2 of cystitis and 45 of tonsillitis. Each tablet contains 1 cg. of formaldehyd in a loose combination with milk, sugar and menthol, with some ordinary sugar and a little pepsin, hydrochloric acid and an aromatic vehicle.

45. **Treatment of Coryza in Infants.**—Ballin believes that the treatment of coryza in infants is especially important because the local obstruction to breathing sometimes prevents nursing, thus necessitating artificial feeding and often resulting in marked loss of weight. It may cause sudden death from asphyxia or from complicating capillary bronchitis, which is due, he thinks, principally to aspiration of infectious secretions from the nose. The swelling and secretion in the nose must be reduced, and, since cocain is too dangerous, he recommends soaking a small tampon of cotton in a 1 per cent. solution of adrenalin, and placing it in each nostril alternately, leaving it from two to three minutes. The mucous membrane becomes anemic, the swelling is reduced, and a mass of secretions comes away from the nose. Since the effect of this swabbing only lasts from three to four hours, it is necessary to repeat it three or four times daily, or even before every feeding, and to continue as long as needed. In cases of weak infants, with an exceedingly stubborn, bloody, purulent secretion as the result of a marked rhinitis, he uses a .5 to 1 per cent. silver nitrate solution in addition to the adrenalin. A

drop of this should be applied once a day after the application of the adrenalin until the secretion stops permanently. Of 75 children affected with coryza, 48 were treated with adrenalin and the others were not. Only 12.5 per cent. of those so treated had bronchitis, while 44.4 per cent. of those not so treated were affected with it. In syphilitic coryza it is not only locally beneficial, but prevents a large number of deaths which would otherwise occur from aspiration pneumonia.

Virchow's Archiv, Berlin.

Last indexed page 143.

49 (CLXXIX, No. 3.) Proportion of Ash, Total and Residual Nitrogen in Blood, Exudates and Transudates in Various Diseases.—Gehalt des Blutes, etc., an Trockensubstanz, Gesamt- und Reststickstoff, etc. K. v. Rzentkowski.
50 Zum Studium der Mast-Cellen. Fahr.
51 Negative Judgment on Cell Inclusions Described as Protozoa in Variola.—Ueber die als Protozoen beschriebenen Zell-Einschlüsse bei Variola. P. Schrumpf.
52 Vorkommen parasitärer Organismen in Geschwülsten (in tumors). L. Blum.
53 Die Protozoen des Scharlachfiebers (of scarlet fever). C. W. Duval.
54 Origin of "Implantation" Tuberculosis of Peritoneum and Its Relation to the Doctrine of Inflammation.—Implantations-Tuberkulose des Bauchfells, ihre Entstehung, etc. G. Guyot.
55 Zur Lehre vom Aneurysma spurium. W. Kallenberger.
56 [illegible] h Gaseous Hypertrophy of Protoplasm.—[illegible] der Haut. K. Sick (Berne).
57 [illegible] Mucosa in Upper Esophagus.—Zur Histologie der Magenschleimhautinseln im obersten Oesophagusabschnitte. H. Schridde.

Wiener klinische Wochenschrift, Vienna.

Last indexed XLIV, page 1971.

58 (XVII, No. 14, April 6.) *Funktionsstörungen der Nebenniere [illegible] Intoxikationen und Infektionen [illegible] adrenals). F. Luksch.
59 Ue [illegible] von Diplokokken-exsudaten. E. Hoke.
60 *To Outline the Heart by Indirect Palpation.—Die Grenzbestimmung des Herzens und seiner Abschnitte mittels indirekter Palpation des Impulses. L. Kurt.
61 *Ueber Augenmuskel-Rheumatismus (of ocular muscles). K. Pichler.
62 (No. 15.) Toxin and Antitoxin. R. Grasberger and A. Schattenfroh.
63 *[illegible] mit totaler Kapsel-Exstirpation, nebst [illegible] die Total-Exstirpation des tuberkulösen [illegible] joint). A. Lorenz and M. Reiner.
64 Ueber Autolyse in Punktions-Flüssigkeiten (puncture fluids). E. Zak.
65 Modification of Mosetig Bone Filling.—Zwei etwas modifizierte Anwendungsweisen der v. Mosetigschen Knochenplombe. B. Mayrhofer.
66 (No. 16.) Experiences with Anesthetics in 700 Cases.—Ueber neuere Narkosen-Mittel und -Methoden, insbesondere Morphin-Skopolamin. R. Puschnig.
67 Immunization Against Chicken Cholera.—Die passive Aggressin-Immunität bei Hühnercholera. E. Weil.
68 Die diätetische Behandlung des Diabetes mellitus. M. Mann.
69 Obstruction of Murphy Button by Olive Stone or Scybala.—Zur Kasuistik der Gefahren bei Anwendung des Murphy-Knopfes. Phillipp.

58. **Study of Suprarenal Functioning in Disease.**—Luksch estimates the functional disturbance in the suprarenals by the lesser pressure-raising power of the extract. His research on various animals showed that the suprarenals are not materially affected by various pathologic conditions, starvation, fever, etc., but that others, such as uremia, phosphorus poisoning, diphtheria and various infectious processes, apparently arrested the suprarenal functioning. The extract of the organs under these conditions failed to display the normal pressure-raising property. This functional disturbance in the suprarenals is probably one of the injurious factors that co-operate in serious infectious processes.

60. **Indirect Palpation to Outline the Heart: the Ictometer.**—Kurt uses a wooden rod, about 20 cm. long, with a small plate at each end, to estimate the movements of the thorax wall over the heart. He calls it the ictometer, as the heart beat is sometimes called the ictus. It is possible with this little instrument to note delicate variations in the heart action, over different segments of the heart, as he describes in detail.

61. **Rheumatism of Ocular Muscles.**—Pichler has observed 4 cases of involvement of the tendons of the muscles of the eye in 160 cases of acute articular rheumatism. He believes that this rheumatic eye affection is liable to be diagnosed as episcleritis, and treated on a mistaken basis, when antirheumatic remedies would soon cure it.

63. **Extirpation of Tuberculous Hip Joint.**—Lorenz and Reiner advocate operating far into sound tissue, removing the capsule entirely, and not opening into the joint until the capsule has been completely detached from all the soft parts. To do this it is necessary to make an incision both in front and at the back of the joint. The connection between the trochanter major and the femur is left undisturbed. By this technic the unopened joint with the intact sac of the capsule is extirpated *in toto.* The leg is not much shortened, as the entire length of the femur from the tip of the trochanter is retained. They assume that the period of greatest painfulness coincides with an intra-articular abscess, and that this is the best time for the operation. Their experience with this technic has been very favorable.

Gazzetta degli Ospedali, Milan.

Last indexed page 227.

70 (XXVI, No. 28.) *Contributo clinico alla patogenesi vasomotoria dell' asma bronchiale. F. Galdi.
71 Iodo-Iodid Injections in Malarial Spleen.—Metodo Parona nei tumori cronici di milza da malaria. E. Grande.
72 High Frequency Currents in Ozena.—Intorno alle applicazioni delle correnti ad alta frequenza nell'ozena. Hahn.
73 (No. 31.) Diminished Resistance to Infections as Cause of Death After Removal of Thymus in Frogs.—Morte delle rane dopo l'estirpazione dei timi. G. A. Pari.
74 Sul valore terapeutico [illegible] G. Ricci.
75 *La terapia delle appen[illegible]
76 (No. 34.) N-Rays.—S[illegible] V. Maragliano.
77 *Arterial Pressure in [illegible] eriosa nell'uomo allo stato patologico. A. Torchio.
78 *Infectious Icterus, etc.—Ittero infettivo, atrofia giallo acuta del fegato e cirrosi biliare ipertrofica. G. Zanardini.
79 *Il trattamento dell'eclampsia gravidica con la paratiroidina. G. Vassale.
80 (No. 37.) Interpretazione di alcuni rumori sistolici dell'aorta (*systolic aortic sounds*). G. Curlo.
81 Present Status of Edebohl's Decapsulation.—La cura chirurgica nelle nefriti mediche. L. Cesari.
82 (No. 40) Right pleural Effusion in Heart and Liver Affections.—Versamento pleurico a destra nelle cardiopatie e nella cirrosi epatica. V. Gianni.
83 *Inconstancy of Salicylates.—Sull'azione incostante dei salicilici nel reumatismo poliarticolare. A. Cerioli.
84 (No. 41.) *X-Rays in Recurring Leukemia and Banti's Disease.—I raggi X nella malattia di Banti, etc. C. Bozzolo.
85 (No. 43.) *Prognostic Importance of Alkaline Phosphates in Urine in Pneumonia.—Sul valore pronostico dei fosfati alcalini nelle orine dei polmonitici. F. Sicuriani.
86 *Operation for Umbilical Hernia.—Cura delle ernie del cordone ombelicale. A. Dal Vesco.
87 In Defence of General Anesthesia.—In difesa dell'anestesia generale. G. Stella.
88 Cure of Tuberculous Peritonitis with Local Injections of Iodo-iodid Solution.—La guarigione della peritonite tubercolare colle iniezioni iodo-iodurate alla Durante. G. Reale.

70. **Vasomotor Pathogenesis of Bronchial Asthma.**—Galdi's patient exhibited typical bronchial asthma in childhood, but it vanished at puberty and did not reappear for ten years. It then returned, accompanied by symptoms indicating pronounced vasomotor disturbances, these symptoms sometimes appearing as an equivalent for the attack of asthma and subsiding as the latter became established. They included hyperidrosis, urticaria, formication and edema or sialorrhea, swelling of part of the tongue, diarrhea and intestinal disturbances. There was also copious secretion from the eyes, nose and ears. The attacks recurred at any season of the year, but they were almost entirely banished by general tonic measures, tepid sulphur baths and revulsion to the spine. The patient left before the treatment outlined had been entirely completed, regarding himself as cured.

75. **Maragliano on Appendicitis.**—This Italian clinician is an advocate of prompt intervention, urging that the simple operation harms no one, even if the person might have recovered without it, while it saves many who would have been lost without it. He quotes a writer who asks: "Which is better, to save a few appendices or the lives of your patients?"

77. **Arterial Pressure in Disease.**—Torchio has been studying the influence on the arterial pressure of various diseases and also of certain drugs. He examined 528 patients, besides a number of healthy persons, and tabulates the results. The first impression derived from study of the tables is that the arterial tension is lower in children, in both health and disease, than in adults, the proportion of cases of hypertension increasing from 7 per cent. under the age of 13 to 19 per cent. from 13 to 25, and 36 per cent. from 25 to 50, while after this age it is 61 per cent. A pressure of 115 mm. may represent medium pressure in a lad of 15, while it would be hypertension for a child and hypotension in an adult. Hypotension is the rule in typhoid fever and in pneumonia, also in tuberculosis unless complicated by lead poisoning, arteriosclerosis or alcoholism. In tuberculosis he found the arterial tension lower

the more rapid the course of the disease. The tension was higher in the cases with hemoptysis. In pneumonia the cases with very low tension and rapid pulse terminated fatally, while the patients all recovered when the pulse was more nearly normal. The tension findings in twenty-five different diseases and a miscellaneous group show that hypertension is the rule in heart and kidney affections and chronic bronchitis, less marked in neuralgia and neuroses, and medium in malaria. Rest in bed seems to reduce the tension, as also a milk diet; steam baths in nephritis and venesection also have a transient action. Adrenalin and saline infusion raise the tension. Further research on 28 persons demonstrated that injection of tuberculosis toxin materially reduces the tension.

78. **Liver Affections.**—Zanardini classifies liver affections as belonging all to a single group, with gradations of intensity. Simple catarrhal icterus leads, followed by mild but protracted icterus, and this, in turn, by cirrhosis of the liver with hypertrophy. This is favored by advanced age, by the menopause and by the liquor habit. The last member of the group is acute yellow atrophy of the liver. In this the state of the nerves and the morphologic conditions in the abdomen have a predisposing action, as also syphilis, pellagra, influenza, pregnancy and worry or a fright.

79. **Parathyroid Treatment of Puerperal Eclampsia.**—Vassale reports that the effect of an extract of the parathyroid glands in cases of puerperal eclampsia has been surprising. The convulsions were arrested so promptly that the assumption of a specific action seems almost inevitable, as it resembles so much that of the thyroid gland in myxedema. He has found the parathyroid extract useful also in tetany, and expatiates on the way in which the clinical experience harmonizes with this conception of the parathyroid origin of convulsive attacks. He is now trying the parathyroid extract in epilepsy. (See also notice on page 193.)

83. **Inconstancy of Salicylic Medication in Articular Rheumatism.**—Cerioli remarks that the curative action of the salicylates is in direct proportion to the spontaneous defense of the organism, reinforcing it but not able to cure without the co-operation of the organism. He quotes Maragliano to the effect that statistics show that the course of articular rheumatism has not been shortened since the advent of salicylic medication, to which he does not ascribe much therapeutic importance. Cerioli urges that the phases of the disease should be watched and the salicylates be given with discretion to aid Nature, not blindly and insistently, in which case they do more harm than good.

84. **Roentgen Treatment of Leukemia and Banti's Disease.**—In this communication, Bozzolo describes the subsequent history of the cases reported last July as improved under Roentgen treatment, mentioned in THE JOURNAL on page 1670 of vol. xliii. The young woman with leukemia has remained in apparent health, feeling constantly well. On one occasion the blood findings showed again a marked leukemic tendency, and Roentgen treatment was again instituted, with the same favorable effect as before. His experience with three cases of Banti's disease shows that Roentgen treatment has a beneficial action, but that it is much slower and more gradual than in leukemia. In this affection the fibrous part of the spleen is hypertrophied, and this tissue yields more sluggishly to the action of the rays than the lymphatic follicles which are involved in leukemia. The great advantage of Roentgen treatment is that the general condition improves and the patients feel constantly well, even although the blood findings fluctuate.

85. **Prognostic Importance of Phosphates in Urine in Pneumonia.**—Sicuriani concludes from his research on 25 patients with pneumonia that the alkaline phosphates vanish from the urine during the course of pneumonia. Their reappearance in the urine is the precursor of the crisis and a sign of good omen.

86. **Operation for Umbilical Hernia.**—Dal Vesco makes a short incision below the hernia and works a gauze compress between the viscera and the abdominal wall. He then passes a stout thread through the lips of the incision, over the gauze, fastened on one side by a roll of gauze, and held on the other by hemostatic forceps. He then carries the incision farther up, working the gauze along and introducing another suture, continuing this until he has the hernia well under control, the viscera held in place by the gauze spread out over them, reinforced by the suture threads passed over across it. After taking care of the hernia as usual, he completes the operation by tightening the suture threads, thus drawing the lips of the incision together, and then pulling out the gauze, concluding by fastening the ends of the threads over rolls of gauze and suturing the skin. The recuperating power of the tissues of infants insures rapid repair, while the simplicity and security of this operation commend it for general adoption, he thinks. The entire procedure is complete in less than twenty minutes, even in extensive cases.

Riforma Medica, Palermo and Naples.

Last indexed page 228.

89 (XXI, Nos. 19 and 20.) *Sulla sieroterapia della pneumonite. E. De Renzi.
90 *Methylene Blue Urine Test.—Le bleumetilenereazione, suo valore clinico. M. Russo.
91 Sull'infezione sperimentale del micrococco tetragono settico. E. Ciaramelli.
92 *2 casi di enditelioma dello stomaco. O. Cignozzi. (Commenced in No. 17.)
93 *Reflexes and Tremor in Neurasthenia.—Riflessi profondi e superficiali ed il tremore vibratorio delle dita delle mani nella neurastenia. G. Severino.
94 (No. 21.) Tubercle Bacillus Absent in Urine in Pulmonary Tuberculosis.—Sul preteso reperto positivo del bacillo di Koch nelle orine di malati di tuberculosi polmonare. R. Supino.
95 *Changes in the Leucocyte Formula After Injections of Iodo-Iodid Solution.—Sulle modificazioni indotte dalle inezioni iodo-iodurate sulla formola emo-leucocitaria dei bambini. A. B. Gianasso.

89. **Serotherapy of Pneumonia.**—The conclusions of De Renzi's experiences with 26 patients treated with Pane's antipneumococcus serum are that the general condition always improved under the serotherapy. The patients say they feel better after the injection of serum, and this is not due to suggestion. The pneumonia had attacked strong men and reduced them to an alarming condition. When they said that they felt much better after the injection of serum, it could not have been the effect of suggestion under these circumstances. The temperature always subsided after the injection. When made in the morning, by evening the temperature was found reduced. As the general condition and the temperature improved, the pulse and respiration became less rapid. He has never seen any evidence that the local manifestations of the pneumonia are improved by the serum, but, as the general condition is so much better, the local phenomena dwindle in importance as we see that the general resisting powers have been so powerfully reinforced. Another fact noted is that resolution does not occur with a crisis, but by lysis. The serotherapy evidently reduces the intensity of the disease, while it improves the general condition. The patient recovers without such loss of strength as is usual in the disease. Further evidence of this is the approximately normal blood pressure instead of the low pressure characteristic of pneumonia. Food can be taken early with a little alcohol.

90. **Methylene Blue Urine Test.**—Russo proposes a methylene blue test which he thinks may advantageously substitute Ehrlich's diazo reaction. It is much simpler, while he has found the results equally reliable. In typhoid it affords more information than the diazo test, as it indicates the exact phase of the disease. The reagent is readily made and keeps perfectly. Methylene blue added to typhoid urine gives a characteristic color reaction, the tint changing to a pronounced emerald green. He uses a 1 per thousand aqueous solution of methylene blue. Four drops are added to a test tube containing from 4 to 5 c.c. of urine, and if the reaction is positive the fluid turns an emerald or mint green. A light green or bluish green represents a negative reaction. Boiling the urine or previous ingestion of quinin, salol, calomel, euchinin, caffein or digitalis does not affect the reaction. It was encountered as early as the second or third day of typhoid in many instances, and was invariably positive in the 41 cases of typhoid and in the 32 of measles examined, paralleling the diazo reaction. In 10 cases of smallpox it was always positive, while the diazo reaction was negative in 2 of these cases. It was always negative in 10 cases of pulmonary tuberculosis in the first stage, while it was positive in 10 and negative in 20

out of 30 cases in the second stage. It was invariably positive in 25 cases in the third stage, also in 6 of tuberculous pleurisy, in 5 of tuberculous empyema and in 4 of tuberculous peritonitis, and was positive in 3 out of 5 cases of glandular tuberculosis, while the diazo reaction was positive in 4 of this latter group. Otherwise the diazo reaction nearly paralleled it. The methylene blue reaction was invariably negative in cases of scarlet fever, varicella, varioloid, influenza, bronchitis, pneumonia, and in gastric catarrh, in febrile gastroenteritis, in appendicitis, in renal lithiasis, in nephritis, in articular rheumatism, in cases of abscess in the liver, in mitral insufficiency, epilepsy, neurasthenia and malarial fever. The "mint" green tint is observed first, the emerald tone appearing as the disease reaches its height, while the tint grows more and more bluish as the patient progresses toward recovery, or the emerald tint persists till death. The constant presence of the reaction in smallpox and its absence in varicella and varioloid is an important differentiating sign.

92. **Endothelioma of the Stomach.**—Cignozzi's article is a comprehensive illustrated monograph and historical sketch on the subject of gastric endothelioma and plastic linitis. He thinks that the latter is much rarer than generally assumed.

93. **Reflexes and Tremor in Neurasthenia.**—Severino found tremor of the fingers in 88 per cent. of 75 neurasthenics examined. The tendon reflexes were increased or exaggerated in 92 per cent., while one or more of the superficial reflexes were abolished in from 70 to 85 per cent.

Revista de Medicina y Cirugia, Havana.

Last indexed XLIV, page 1892.

96 (IX, Nos. 16-17.) *Sobre infecciones piohemicas. M. G. Lebredo.
97 Lecciones de anatomia topografica (stomach). G. Pedroso.
98 (No. 18) La hemorragia post-partum. G. L. Brodhead (New York).
99 *Three Mistaken Diagnoses of Extrauterine Pregnancy.—Tres diagnosticos erroneous de embarazo extrauterino. E. Fortun.
100 (No. 21.) *Third Anniversary of Eradication of Yellow Fever.—Tercer aniversario de la eradication de la fiebre amarilla de la Habana. J. Le-Roy y Cassa.
101 (No. 22.) *Anakhre, Goundou? A. Ayala.
102 (No. 23.) Cuerpos extranos multiples de la cornea (foreign bodies). J. L. Dehogues.
103 *Caso de hemoptisis filarica. R. G. Mon and N. Carballo.
104 (No. 24) Contribucion al estudio del parasitismo humano y animal. E. Cuervo.
105 (X, No. 1.) Cistitis colli proliferans edematosa. J. Diago.
106 Regulations in regard to Milk in Cuba. G. Arostegui.

96. **Pyemic Infections.**—Lebredo draws the parallel clinical picture of three pyemic infections—glanders, general streptococcus and general staphylococcus infection. Differentiation is difficult in the clinic, and he urges physicians to apply to the Board of Health or elsewhere for bacteriologic examination of the pus without delay, if unable personally to attend to such tests. By this means, it will be possible in time to stamp out the almost invariably fatal glanders. He mentions a case of glanders personally observed, terminating in recovery. The patient was in the hospital a year and a half. The multiple abscesses were opened, in turn, and disinfected. When all had healed, except a single old one, an actual intermittent fistula, as he calls it, in the left inguinal glands, this was treated by radical extirpation. The cultures from the pus of this final lesion were negative toward the last.

99. **Mistaken Diagnoses of Extrauterine Pregnancy.**—In 2 of the cases described, there had been abortion after a few weeks of uterine pregnancy. The signs of the pregnancy were accompanied by an abdominal tumor, a sarcoma of the broad ligament in one, and an ovarian cyst in the other. In the third case, a dermoid cyst of the right ovary, with a long pedicle, induced symptoms suggesting pregnancy. As the uterus showed no signs of such a condition, an ectopic pregnancy was assumed.

100. **History of Yellow Fever in Cuba.**—In this sketch Le-Roy traces the history of yellow fever in the island and its extirpation a few years ago. The three years of exemption are the most eloquent proof, he remarks, of the truth of the doctrine which Finlay proclaimed in the Havana Medical Society as long ago as 1881.

101. **Anakhre, Goundou.**—Ayala writes from Venezuela to describe a case of this affection in a white merchant, 39 years old, a resident of Caracas, previously healthy. A large lump has developed on each side of his nose. The lumps are never painful and cause no disturbances except the mechanical ones.

103. **Filarian Hemoptysis.**—Mon and Carballo describe the case of a man of 33 who presented nocturnal hemoptysis on twelve occasions, and a single embryo of the *Filaria Bancrofti* was discovered in the specimen of his blood. Under treatment with tincture of iodin, the hemorrhages promptly ceased, and after slight fever for two days he rapidly recovered and has been in perfect health since, with no signs of cough, fever or hemoptysis.

Siglo Medico, Madrid.

Last indexed XLIV, page 1892.

107 (LII, No. 2,674-6.) La pustula maligna. Su tratamiento por el acido fenico. C. Clemente.
108 *Auditory Affections in Schoolchildren.—Las enfermedades del oido, etc. C. Compaired.
109 (No. 2,677.) *Dificultades para el diagnostico del embarazo en las solteras (of pregnancy in the unmarried). M. Sanchez.
110 (No. 2,679.) La tuberculosis en los pueblos (in villages). J. G. Castro.

108. **Defective Hearing in School Children.**—Compaired urges that the hearing capacity of every child should be examined when it enters school and again at stated periods. Teachers should be informed when a child is defective in this respect, and should be instructed to favor it as far as possible. Parents should be educated to detect the early symptoms, and the children should be treated in special otologic clinics, separate from the ordinary hospital or other ear clinics. The teachers might test the hearing of the children if a simple card of instructions were given them, and by this means incipient disturbances might be detected in time for treatment to be effectual. In his own experience, out of 1,366 cases of deafness between the ages of 10 and 16, 16.55 per cent. were due to affections of the outer ear which could easily have been cured by simple measures, and thus have saved the child's hearing. In 18.89 per cent. the deafness was due to obstructions which might readily have been removed. In 33.79 per cent. it was the result of some infectious disease, and this proportion would certainly have been less if the ear complications had received prompt treatment. He regards adenoid vegetations as one of the most frequent causes of deafness. In 320 recent cases in which adenoid vegetations were removed he found bilateral purulent otitis media in 37 and unilateral in 41, catarrh of the tube in 68, hypertrophy of the turbinates in 79, enlarged tonsils in 59, enlarged glands in the neck in 14, and nasal catarrh in 17. In his general examinations of school children he has become convinced that fully 20 per cent. suffer from some ear affection. Districts with a moist, hot climate show much the larger percentage of purulent and catarrhal affections of the nose, throat and ears.

109. **Diagnosis of Pregnancy in the Unmarried.**—Among the practical points mentioned by Sanchez is the necessity for rectal palpation in dubious cases, as vaginal is out of the question in the supposed virgin. On the pretext of a tumor, rectal palpation will usually be permitted. When not certain of the findings, the physician can postpone the examination to a later date, "as the tumor shows no signs of malignancy." He adds that when the physician is convinced in regard to the pregnancy, he should inform the mother alone, ignoring the young woman herself and the other members of the family.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PHARMACOPEIA OF THE UNITED STATES OF AMERICA, By Authority of the United States Pharmacopeial Convention held at Washington, 1900. Eighth Decennial Revision. Revised by the Committee of Revision and published by the Board of Trustees. Official from Sept. 1, 1905. Cloth. Pp. 692. Price, $2.50. Philadelphia: P. Blakiston's Son & Co.

HAND BOOK OF ANATOMY, Complete Compend of Anatomy, including the Anatomy of the Viscera and Numerous Tables. By J. K. Young, M.D., Second Edition, revised and enlarged; 171 Engravings, with some in colors. Flexible cloth. Pp. 402. Price $1.50 net. Philadelphia: F. A. Davis & Co., 1905.

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Addresses

UNITY, PEACE AND CONCORD.

A FAREWELL ADDRESS TO THE MEDICAL PROFESSION OF THE UNITED STATES.*

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OXFORD, ENGLAND.

On this occasion I have had no difficulty in selecting a subject on which to address you. Surely the hour is not for the head but for the heart, out of the abundance of which I may be able to express, however feebly, my gratitude for the many kindnesses I have received from the profession of this country during the past twenty-one years, and from you, my dear colleagues of this state and city, during the sixteen years I have dwelt among you. Truly I can say that I have lived my life in our beloved profession—perhaps too much! but whatever success I have had has come directly through it, and my devotion is only natural. Few men have had more from their colleagues than has fallen to my lot. As an untried young man my appointment at McGill College came directly through friends in the faculty who had confidence in me as a student. In the ten happy years I lived in Montreal I saw few but physicians and students, among whom I was satisfied to work—and to play. In Philadelphia the hospitals and the societies absorbed the greater part of my time, and I lived the peaceful life of a student with students. An ever-widening circle of friends in the profession brought me into closer contact with the public, but I have never departed from my ambition to be first of all a servant of my brethren, willing and anxious to do anything in my power to help them. Of my life here you all know I have studied to be quiet and to do my own business and to walk honestly toward them that are without, and one of my chief pleasures has been to work among you as a friend, sharing actively in your manifold labors. But when to the sessions of sweet, silent thought I summon up the past, not what I have done, but the many things I have left undone, the opportunities I have neglected, the battles I have shirked, the precious hours I have wasted—these rise up in judgment.

A notable period it has been in our history through which we have lived, a period of reconstruction and renovation, a true renaissance, not only an extraordinary revival of learning, but a complete transformation in our educational methods; and I take pride in the thought that, in Philadelphia and in Baltimore, I have had the good fortune to be closely associated with men who have been zealous in the promotion of great reforms, the full value of which we are too close to the events to appreciate. On the far-reaching influence of these changes time will not permit us to dwell. I propose to consider another aspect of our work of equal importance, neither scientific nor educational, but what may be called humanistic, as it deals with our mutual relations and with the public.

Nothing in life is more glaring than the contrast between possibilities and actualities, between the ideal and the real. By the ordinary mortal, idealists are regarded as vague dreamers, striving after the impossible, but in the history of the world how often have they gradually molded to their will conditions the most adverse and hopeless! They alone furnish the *Geist* that finally animates the entire body and makes possible reforms and even resolutions. Imponderable, impalpable, more often part of the moral than of the intellectual equipment, are the subtle qualities so hard to define, yet so potent in every-day life by which these fervent souls keep alive in us the reality of the ideal. Even in a lost cause with aspirations utterly futile, they refuse to acknowledge defeat and, still nursing an unconquerable hope, send up the prayer of faith in face of a scoffing world. Most characteristic of aspirations of this class is the petition of the Litany in which we pray that to the nations may be given "unity, peace, and concord." Century after century from the altars of Christendom this most beautiful of all prayers has risen from lips of men and women, from the loyal souls who have refused to recognize its hopelessness, with the war-drums ever sounding in their ears. The desire for unity, the wish for peace, the longing for concord, deeply implanted in the human heart, have stirred the most powerful emotions of the race, and have been responsible for some of its noblest actions. It is but a sentiment, you may say, but is not the world ruled by feeling and by passion? What but a strong sentiment baptized this nation in blood, and what but sentiment, the deep-rooted affection for country which is so firmly implanted in the hearts of all Americans, gives to these states to-day unity, peace, and concord? As with the nations at large, so with the nation in particular, as with people so with individuals, and as with our profession so with its members, this fine old prayer for unity, peace and concord, if in our hearts as well as on our lips, may help us to realize its aspirations. What some of its lessons may be to us will be the subject of my address.

UNITY.

Medicine is the only world-wide profession, following everywhere the same methods, actuated by the same ambitions and pursuing the same ends. This homogeneity, its most characteristic feature, is not shared by the law, and not by the church, certainly not in the same degree. While in antiquity the law rivals medicine, there is not in it that extraordinary solidarity which makes the physician at home in any country, in any place where two or three sons of men are gathered together. Similar in its high aims and in the devotion of its officers, the Christian Church, widespread as it is, and saturated with the humanitarian instincts of its Founder, yet lacks that catholicity—*urbi et orbi*—which enables the physician to practice the same art amid the same surroundings in every country of the earth. There is a unity, too, in its aims—the prevention of diseases by discovering their causes, and the cure and relief of sickness and suffering. In a little more than a century a united profession working in many lands has done more for the race than has ever before been accomplished by any other body of men. So great have been these gifts that we have almost lost our appreciation of them. Vaccination, sanitation, anesthesia, antiseptic surgery, the new science of bacteriology, and the new art in therapeutics have effected a revolution in our civilization to which only can be compared the extraordinary progress in the mechanical arts. Over the latter there is this supreme advantage, it is domestic—a bedroom revolution, which sooner or later touches each one of us, if not in person, in those near and dear—a revolution which for the first time in the history of poor, suffering humanity brings us appreciably closer to that promised day when the former things should pass away, when there should be no more unnecessary death, when sorrow and crying should be no more, and there should not be any more pain.

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* Delivered at the annual meeting of the Medical and Chirurgical Faculty of Maryland, Baltimore, April 26, 1905.

One often hears as a reproach that more has been done in the prevention than in the cure of disease. It is true, but this second part of our labors has also made enormous progress. We recognize to-day the limitations of the art, we know better the diseases curable by medicine, and those which yield to exercise and fresh air; we have learned to realize the intricacy of the processes of disease and have refused to deceive ourselves with half knowledge, preferring to wait for the day instead of groping blindly in the dark or losing our way in the twilight. The list of diseases which we can positively cure is an ever-increasing one, the number of diseases the course of which we can modify favorably is a growing one, the number of incurable diseases (which is large and which will probably always be large) is diminishing—so that in this second point we may feel that not only is the work already done of the greatest importance, but that we are on the right path, and year by year as we know disease better we shall be able to treat it more successfully. The united efforts of countless workers in many lands have won these greatest victories of science. Only by ceaseless co-operation and the intelligent appreciation by all of the results obtained in each department has the present remarkable position been reached. Within a week or ten days a great discovery in any part of the world is known everywhere, and, while in a certain sense we speak of German, French, English and American medicine, the differences are trifling in comparison with the general similarity. The special workers know each other and are familiar with each other's studies in a way that is truly remarkable. And the knowledge gained by the one, or the special technic he may devise, or the instrument he may invent is at the immediate disposal of all. A new life-saving operation of the first class devised by a surgeon in Breslau would be performed here the following week. A discovery in practical medicine is common property with the next issue of the weekly journals.

A powerful stimulus in promoting this wide organic unity is our great international gatherings, not so much the International Congress of the profession, which has proved rather an unwieldy body, but of the special societies which are rapidly denationalizing science. In nearly every civilized country medical men have united in great associations which look after their interests and promote scientific work. It should be a source of special pride to American physicians to feel that the national association of this country—the American Medical Association—has become one of the largest and most influential bodies of the kind in the world. We can not be too grateful to men who have controlled its course during the past ten years. The reorganization so efficiently carried out has necessitated a readjustment of the machinery of the state societies, and it is satisfactory to know that this meeting of our state society, the first held under the new conditions, has proved so satisfactory. But in the whole scheme of readjustment nothing commands our sympathy and co-operation more than the making of the country societies, the materials out of which the state and national associations are built. It is not easy at first to work out such a scheme in full detail, and I would ask of the members of this body not only their co-operation, but an expectant consideration, if the plan at first does not work as smoothly as could be desired. On the county members I would urge the support of a plan conceived on broad national lines—on you its success depends, and on you its benefits will chiefly come.

Linked together by the strong bonds of community of interests, the profession of medicine forms a remarkable world-unit, in the progressive evolution of which there is a fuller hope for humanity than in any other direction.

Concentration, fusion and consolidation are welding together various subunits in each nation. Much has been done, much remains to do, and to three desiderata I may refer briefly.

In this country reciprocity between the state licensing boards remains one of the most urgent local needs. Given similar requirements, and examinations practically of the same character, with evidence of good character, the state board should be given power to register a man on payment of the usual fee. It is preposterous to restrict in his own country, as is now done, a physician's liberty. Take a case in point: A few months ago a man who is registered in three states, an able, capable practitioner of twenty years' standing, a hard student in his profession, a physician who has had charge of some of the most important lives of this country, had to undergo another examination for license. What an anomaly! What a reflection on an united profession! I would urge you all most strongly to support the movement now in progress to place reciprocity on a proper basis. International reciprocity is another question of equal importance, but surrounded with greater difficulties and, though a long way off, it will come within this century.

The second urgent need is a consolidation of many of our medical schools. Within the past twenty-five years conditions have so changed that the tax on the men in charge of the unendowed schools has become ever more burdensome. In the old days of a faculty with seven professors, a school with 300 students was a good property, paying large salaries, but the introduction of laboratory and practical teaching has so increased the expenses that very little is now left for distribution at the end of the year. The students' fees have not increased proportionately, and only the self-sacrifice and devotion of men who ungrudgingly give their time, and often their means, save a hopeless situation. A fusion of the schools is the natural solution of the problem. Take a concrete example: A union of three of the medical schools of this city would enable the scientific departments to be consolidated at an enormous saving of expense and with a corresponding increase in efficiency. Anatomy, physiology, pathology, physiologic chemistry, bacteriology and pharmacology could be taught in separately organized departments which the funds of the united school could support liberally. Such a school could appeal to the public for aid to build and endow suitable laboratories. The clinical work could be carried on at the separate hospitals, which would afford unequaled facilities for the scientific study of disease. Not only in this city, but in Richmond, in Nashville, in Columbus, in Indianapolis and in many cities a "merger" is needed. Even the larger schools of the larger cities could "pool" their scientific interests to the great advantage of the profession.

And the third desideratum is the recognition of our homeopathic brethren that the door is open. It is too late in this day of scientific medicine to prattle of such antique nonsense as is indicated in the "pathies." We have long got past the stage when any "system" can satisfy a rational practitioner, long past the time when a difference of belief in the action of drugs—the most uncertain element in our art!—should be allowed to separate men with the same noble traditions, the same hopes, the same aims and ambitions. It is not as if our homeopathic brothers are asleep—far from it—they are awake—many of them at any rate—to the importance of the scientific study of disease, and all of them must realize the anomaly of their position. It is distressing to think that so many good men live isolated, in a measure, from the great body of the profession. The original grevious mistake was ours—to quarrel with our brothers over infinitesimals was a most unwise and stupid thing to do. That we quarrel with them now is solely on account of the old Shibboleth under which they practice. Homeopathy is as inconsistent with the new medicine as is the old-fashioned polypharmacy, to the death destruction of which it contributed so much. The rent in the robe of Æsculapius, wider in this country than elsewhere, could be repaired by mutual concessions—on the one hand by the abandonment of special designations, and, on the other, by an intelligent toleration of therapeutic vagaries which in all ages have beset the profession, but which have been mere flies on the wheels of progress.

PEACE.

Many seek peace, few pursue it actively, and among these few we, alas! are not often to be found. In one sense every one of us may be asked the question which Jehu returned to Joram: "What hast thou to do with peace?" since our life must be a perpetual warfare, dominated by the fighting spirit. The physician, like the Christian, has three great foes—ignorance, which is sin; apathy, which is the world, and vice, which is the devil. There is a delightful Arabian proverb, two lines of which run: "He that knows not and knows not that he knows not is a fool—shun him. He that knows not and knows that he knows not is a simple—teach him." To a large extent these two classes represent the people with whom we have to deal. Teaching the simple and suffering the fools gladly, we must fight the wilful ignorance of the one and the helpless ignorance of the other, not with the sword of righteous indignation, but with the skillful weapon of the tongue. On this ignorance the charlatan and the quack live, and it is by no means an easy matter to decide how best to conduct a warfare against these wily foes, the oldest and most formidable with whom we have to deal. As the incomparable Fuller remarks: "Well did the poets feign Æsculapius and Circe, brother and sister, . . . for in all times (in the opinion of the multitude) witches, old women and imposters have had a competition with doctors." Education of the public of a much more systematic and active kind is needed. The congress on quackery, which is announced to take place in Paris, with some twenty-five subjects for discussion, indicates one important method of dealing with the problem. The remarkable exhibit held last year in Germany of everything relating to quacks and charlatans did an immense good in calling attention to the colossal nature of the evil. A permanent museum of this sort might well be organized in Washington in connection with the Department of Hygiene. It might be worth while to imitate our German brethren in a special national exhibit, though I daresay many of the most notorious sinners would apply for large space, not willing to miss the opportunity for a free advertisement! One effective measure is enforced in Germany. Any proprietary medicine sold to the public must be submitted to a government analyst, who prepares a statement (as to its composition, the price of its ingredients, etc.), which is published at the cost of the owner of the supposed remedy in a certain number of the daily and weekly papers.

By far the most dangerous foe we have to fight is apathy—indifference from whatever cause, not from a lack of knowledge, but from carelessness, from absorption in other pursuits, from a contempt bred of self-satisfaction. Fully 25 per cent. of the deaths in the community are due to this accursed apathy, fostering a human inefficiency, and which goes far to counterbalance the extraordinary achievements of the past century. Why should we take pride in the wonderful railway system with which enterprise and energy have traversed the land when the supreme law, the public health, is neglected? What comfort in the thought of a people enjoying great material prosperity when we know that the primary elements of life (on which even the old Romans were our masters) are denied to them. What consolation does the "little red school house" afford when we know that a Lethean apathy allows toll to be taken of every class from the little tots to the youths and maidens? Western civilization has been born of knowledge, of knowledge won by hard, honest sweat of body and brain, but in many of the most important relations of life we have failed to make that knowledge effective. And strange irony of life, the lesson of human efficiency is being taught us by one of the little nations of the earth, which has so far bettered our instruction that we must again turn eastward for wisdom. Perhaps in a few years our civilization may be put on trial, and it will not be without benefit if it arouses the individual from apathy and makes him conscious of the great truth that only by earnest individual human effort can knowledge be made effective, if it arouses communities from an apathy which permits medieval conditions to prevail without a protest.

Against our third great foe, vice in all its forms, we have to wage an incessant warfare, which is not less vigorous because of the quiet, silent kind. Better than any one else the physician can say the word in season to the immoral, to the intemperate, to the uncharitable in word and deed. Personal impurity is the evil against which we can do most good, particularly to the young, by showing the possibility of the pure life and the dangers of immorality. Had I time, and were this the proper occasion, I would like to rouse the profession to a sense of its responsibility toward the social evil—the black plague which devastates the land. I can but call your attention to an important society, of which Dr. Prince Morrow of New York is the organizer, which has for one of its objects the education of the public on this important question. I would urge you to join in a crusade quite as important as that in which we are engaged against tuberculosis.

CONCORD.

Unity promotes concord—community of interests, the same aims, the same objects give, if anything can, a feeling of comradeship, and the active co-operation of many men, while it favors friction, lessens the chances of misunderstanding and ill-will. One of the most gratifying features of our professional life is the good feeling which prevails between the various sections of the country. I do not see how it could be otherwise. One has only to visit different parts and mingle with the men to appreciate that everywhere good work is being done, everywhere an earnest desire to elevate the standard of education, and everywhere the same self-sacrificing devotion on the part of the general practitioner. Man will tell you that commercialism is rife, that the charlatan and the humbug were never so much in evidence, and that in our ethical standards there has been a steady declension. These are the Elijahs who are always ready to pour out their complaints, mourning that they are not better than their fathers. Few men have had more favorable opportunities than I have had to gauge the actual conditions in professional private life, in the schools, and in the medical societies, and as I have seen them in the past twenty years I am filled with thankfulness for the present and with hope for the future. The little rift within the lute is the absence in many places of that cordial professional harmony which should exist among us. In the larger cities professional jealousies are dying out. Read Charles Caldwell's "Autobiography" if you wish for spicy details of the quarrels of the doctors in the first half of the last century in this country. I am sorry to say the professors have often been the worst offenders, and the rivalry between medical schools has not always been friendly and courteous. That it still prevails to some extent must be acknowledged, but it is dying out, but not so rapidly as we could wish. It makes a very bad impression on the public, and is often a serious stumbling block in the way of progress. Only the other day I had a letter from a most intelligent and appreciative layman who was interested in a large hospital scheme about which I had been consulted. I quote this sentence from it in sorrow, and I do so because it is written by a strong personal friend of the profession, a man who has had long and varied experience with us: "I may say to you that one of the distressing bewilderments of the layman who only desires the working out of a broad plan is the extraordinary bitterness of professional jealousy between not only school men and non-school men, but between school men themselves, and the reflections which are cast on one another as belonging to that clique, which makes it exceedingly difficult for the layman to understand what way there is out of these squabbles."

The national and special societies, and particularly the American Medical Association, have brought men together and have taught them to know each other and to appreciate the good points which at home may have been overlooked. As Dr. Brush said yesterday in his address, it is in the smaller towns and country districts that the conditions are most favorable for mutual misunderstandings. Only those of us who have been brought up in such surroundings can appreciate how hard it is for physicians to keep on good terms with each other. The practice of medicine calls equally for the exercise of the heart and the head, and when a man has done his best, to have his motives misunderstood and his conduct of a case harshly criticised, not only by the family, but by a colleague who has been called in, small wonder, when the opportunity arises, if the old Adam prevails and he pays in kind. So far as my observation goes there are three chief causes for the quarrels of doctors. The first is lack of proper friendly intercourse by which alone we can know each other. It is the duty of the older man to look on the younger one who settles near him not as a rival, but as a son. He will do to you just what you did to the old practitioner, when, as a young man, you started—get a good many of your cases; but if you have the sense to realize that this is inevitable, unavoidable, and the way of the world, and if you have the sense to talk over, in a friendly way, the first delicate situation that arises, the difficulties will disappear and recurrences may be made impossible. The young men should be tender with the sensibilities of their seniors, deferring to their judgment and taking counsel with them. If young graduates could be taken more frequently as assistants or partners, the work of the profession would be much lightened and it would promote amity and good fellowship. A man of whom you may have heard as the incarnation of unprofessional conduct, and who has been held up as an example of all that is pernicious, may be, in reality, a very good fellow, the victim of petty jealousies, the mark of the arrows of a rival faction, and you may, on acquaintance, find that he loves his wife and is devoted to his children, and that there are people who respect and esteem him. After all, the attitude of mind is the all-important factor in the promotion of concord. When a man is praised, or when a young man has done a good bit of work in your special branch, be thankful—it is for the common good. Envy, that pain of the soul, as Plato calls it, should never for a moment afflict a man of generous instincts and who has a sane outlook in life. The men of rival schools should deliberately cultivate the acquaintance of each other and encourage their students and the junior teachers to fraternize. If you hear that a young fellow just starting has made mistakes or is a little "off color," go out of your way to say a good word to him, or for him. It is the only cure; any other treatment only aggravates the malady.

The second great cause is one over which we have direct control. The most widespread, the most pernicious of all vices, equal in its disastrous effects to impurity, much more disastrous often than intemperance, because destructive of all mental and moral nobility, as are the others of bodily health, is uncharitableness—the most prevalent of modern sins, peculiarly apt to beset all of us, and the chief enemy to concord in our ranks. Oftentimes it is a thoughtless evil, a sort of tic or trick, an unconscious habit of mind and tongue which gradually takes possession of us. No sooner is a man's name mentioned than something slighting is said of him, or a story is repeated which is to his disadvantage, or the involuntary plight of a brother is ridiculed, or even his character is traduced. In chronic and malign offenders literally "with every word a reputation dies." The work of a school is disparaged, or the character of the work in a laboratory is belittled; or it may be only the faint praise that damns, not the generous meed from a full and thankful heart. We have lost our fine sense of the tragic element in this vice, and of its debasing influence on the character. It is interesting that Christ and the apostles lashed it more unsparingly than any other. Who is there among us who does not require every day to lay to heart that counsel of perfection: "Judge not according to the appearance, but judge righteous judgment." One of the apostles of our profession, Sir Thomas Browne, has a great thought on the question:

> While thou so hotly disclaimest the devil, be not guilty of diabolism. Fall not into one name with that unclean spirit, nor act his nature who thou so much abhorest; that is, to accuse, calumniate, backbite, whisper, detract, or sinistrously interpret others. Degenerous depravities, and narrow-minded vices! not only below St. Paul's noble Christian, but Aristotle's gentleman. Trust not with some that the Epistle of St. James is apocryphal, and so read with less fear that stabbing truth, that in company with this vice thy religion is in vain. Moses broke the tables without breaking of the law; but where charity is broke the law itself is shattered, which cannot be whole without love, which is the fulfilling of it. Look humbly upon thy virtues; and though thou are rich in some, yet think thyself poor and naked without that crowning grace, which thinketh no evil, which envieth not, which beareth, hopeth, believeth, endureth all things. With these sure graces, while busy tongues are crying out for a drop of cold water, mutes may be in happiness, and sing the Trisagion in heaven.

And the third cause is the wagging tongue of others who are too often ready to tell tales and make trouble between physicians. There is only one safe rule—never listen to a patient who begins with a story about the carelessness and inefficiency of Dr. Blank. Shut him or her up with a snap, knowing full well that the same tale may be told of you a few months later. Fully half of the quarrels of physicians are fomented by the tittle tattle of patients, and the only safeguard is not to listen. Sometimes it is impossible to check the flow of imprecation and slander, and then apply the other rule—perfectly safe, and which may be commended as a good practice—never believe what a patient tells you to the detriment of a brother physician, even though you may think it to be true.

To part from the profession of this country and from this old faculty, which I have learned to love so dearly, is a great wrench, one which I would feel more deeply were it not for the nearness of England, and for the confidence I feel that I am but going to work in another part of the same vineyard, and were it not for the hope that I shall continue to take interest in your affairs and in the welfare of the medical school to which I owe so much. It may be that in the hurry and bustle of a busy life I have given offense to some—who can avoid it? Unwittingly I may have shot an arrow o'er the house and hurt a brother—if so, I am sorry and I ask his pardon. So far as I can read my heart I leave you in charity, with all. I have striven with none, not, as Walter Savage Landor says, because none was worth the strife, but because I have had a deep conviction of the hatefulness of strife, of its uselessness, of its disastrous effects, and a still deeper conviction of the blessings that come with unity, peace and concord. And I would give to each of you, my brothers—you who hear me now, and to you who may elsewhere read my words—to you who do our greatest work laboring incessantly for small rewards in towns and country places—to you the more favored ones who have special fields of work—to you teachers and professors and scientific workers—to one and all, throughout the length and breadth of the land—I give a single word as my parting commandant:

> "It is not hidden from thee, neither is it far off. It is not in heaven that thou shouldst say, 'Who shall go up for us to heaven, and bring it unto us that we may hear it and do it?' Neither is it beyond the sea that thou shouldst say, 'Who shall go over the sea for us and bring it unto us that we may hear it and do it?' But the word is very nigh unto thee, in the mouth and in thy heart, that thou mayest do it—Charity."

INDICATIONS FOR SCIENTIFIC PROGRESS IN STOMATOLOGY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON STOMATOLOGY, AT THE FIFTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, PORTLAND, ORE., JULY 11-14, 1905.

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In looking over the long list of papers to which we are to listen we are again struck with the enormous importance of the modern principles of dental surgery. You will pardon me when I emphasize the importance of the special study of diseases of the oral cavity and its surroundings, for I am jealous of the reputation of this Section. It is a matter of pride to show that we have not only held our work in respect but have been followed by a conservative country, i. e., England, which at the last meeting of the British Medical Association (1904) founded the Section on Dental Surgery, putting it in its right place in relation to the sciences of medicine and surgery. As a step forward this should do much to raise the standing of the dental profession and, more important still, to impress the general public. Dental surgeons now will, it is hoped, take a larger interest in general medicine, pathology and surgery, both in their practical and in their scientific requirements; and the medical men themselves will be found to take more interest in some of the special points relating to our science and its pathology.

Oral pathology, indeed, bears a startling and unexpectedly close relationship to general medicine and surgery and may elucidate many obscure cases. I refer to the work of oral sepsis as first studied by Dr. William Hunter[1] of London in 1900 and his special division into *oral sepsis*, i. e., the various effects of streptococcal and staphylococcal infection found in the mouth and oral infection or infection through the mouth in diphtheria, tuberculosis, influenza and pneumonia.[2] To the valuable work of this author, we can add the results of Mr. Goodlee, Mr. Owen, Dr. Sidney Martin, Professor Grawitz and Sir Thomas Barlow, men whose observations are entitled to the highest appreciation and from whose papers valuable data can be secured. How much does the improvement in surgery owe to the dental surgeon? Certainly in the results of excision of the tongue, removal of the maxillæ, operations on the nasopharynx, cleft palate and cosmetic operations, more radical cures have been done, not only because ordinary hemorrhage and septicemia are far less common, but the danger of septic pneumonia, parotitis and erysipelas is much diminished.

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[1] Hunter, William: British Medical Journal, July, 1900. Monograph on "Oral Sepsis."

[2] Hunter, William: British Medical Journal, Nov. 19, 1904. Turner, J. G.; "Oral Sepsis," Practitioner, February, 1905.

The first step in advance was Campbell de Morgan's application of zinc chlorid to the raw surface at the end of an operation. Then carbolic acid had its day, followed by iodoform, then Whitehead's varnish and other applications of a similar nature. The greatest advance, however, lies in sending the cases to a dental surgeon, for the important steps needed are: 1. Scaling teeth. 2. Opening and cleansing pyorrheal pockets. 3. Extracting and filling carious teeth. 4. Waiting for the operation till after a thorough cleansing toilet orally and systematically. 5. The insisting on antiseptic mouth washes, which, according to their length of use and ingredients, become deodorants, disinfectants, detergents, antiseptics and germicides.

It may be asked how this work can be accomplished by one or even by two dental surgeons who are attached to a large hospital, and who unfortunately may forget that holding several such appointments cannot always be conducive to the welfare of the patients. True, many of these appointments carry only the honor, and nothing else, with them and much valuable material is never utilized in any way and I would suggest that the method of handling such hospital work be considered. Is it by increasing the dental staff or in the simpler methods of preventive medicine? In the limited time at my disposal I can only point out the national importance of avoiding septic conditions of the mouth, as they are a frequent cause of cervical tubercular adenitis—a fact seldom considered by either department of the medical or the dental professions. If a child has a tendency to enlarged glands, shall the teeth be extracted, especially when we have gingival abscesses, stomatitis and live teeth present, as is so often the case in primary dentition?

Tuberculosis is another disease which shows the need of careful investigation. Tuberculosis of the tonsil is rarely a primary condition in children, but is considered by Kingsford[3] as a common condition, for, in spite of the opportunities afforded the dentist of noting the oral conditions of children, especially in regard to adenoids and their sequel, mouth breathing, as a common antecedent to phthisis, the connection between these conditions seems to be inadequately recognized, but it is obviously of practical importance, if only as regards prophylaxis. That one-fifth of an unselected series of consumptives are found to be mouth breathers and that such a trifle as projecting teeth may conspire with unfavorable conditions to make a patient phthisical seem facts worthy of our attention.

Another statement we often hear, especially from the older medical men and from the laity in regard to a suppurative tooth is: "Wait till the swelling goes down before you have anything done to it." Are there any grounds for this idea, any danger in opening the abscess or in extracting the tooth if badly diseased, thereby saving the patient pain, danger and delay? We are warned against extraction of the sequestrum in cases of necrosis before complete separation, for violent septicemia and death have been reported in patients with unhealthy mouths. Godlee[4] mentions septic thrombosis of the facial vein which has spread upward and caused fatal thrombosis of the cavernous sinus; and embolic pyemia has been known to occur in the same way.

Necrosis of the mandible and of the maxillæ has been seen in children as a sequence of alveolar abscess and even of infection of the antra and of other air sinuses, especially following attacks of influenza. A question for your consideration is the origin of the parotitis following laparotomies. The theory now advanced seems to depend on the patient's having been starved so long that the functions of the salivary glands are in abeyance, septic organisms follow the largest salivary duct which would not occur if it were acting in a normal physiologic manner. However this theory may be, it seems a welcome explanation of this painful and dangerous sequel, sometimes occuring even when every aseptic precaution was taken. The theory of starvation is not acceptable in all cases, for we know that when wearing artificial dentures, patients may have this condition, even in the submaxillary and sublingual glands, which I suppose is due to pressure on the ducts. Again, conditions in which the saliva is ropy and viscid produce the same state and on dilatation the saliva may be taken out in thick ropy masses, thus relieving the swelling, pain and discomfort.

Another subject for some thought is the question of treating the open wound following extraction of teeth. How many of the operating rooms of the big concerns called "extracting parlors" ever pay much attention to aseptic and antiseptic treatment. Would the wounds benefit by local applications, as recommended by Prof. R. J. Godlee, of zinc chlorid (40 gr. to 1 oz. of water) and iodoform to the raw surfaces?

To Harvey Cushing[5] of Baltimore we are indebted for first showing surgeons the importance in operations on the stomach and intestines of a preliminary sterilizing of the mouth and of all foods administered by the mouth.[6] With the rapid advance of science it is impossible to keep pace with all that is being done, and it requires nearly all one man's attention along one line of research to enable any study to be well done. It must not be exclusive, however, for, as a rule, pure specialism tends to narrowness. "There must," said Dr. Billings "be specialties and specialists, and the results will be good or evil, but the evils fall largely on those specialists who have an insufficent general education, who attempt to construct the pyramid of their knowledge with the small end as a foundation." If the field of any specialty be narrow it can be dug deeply. In science, as in mining "a very narrow shaft, if only it be carried deep enough, may reach the richest stores of wealth and find use for all the appliances of scientific art." So in special branches into which all practitioners of medicine are being divided, it is necessary to recognize the influence and the presence of the general practitioner, whose wide knowledge of his patient's condition must prove of invaluable assistance to any special worker, and nowhere do we need it more than in dental surgery, for even blepharospasm has been known to have a dental etiology. The mechanic can never be the true dentist, without a knowledge of general science and pathology, which gives the etiology of disease and general medicine and surgery; but the true scientific dentist can by experience become more than a mechanic and with far better success, for he knows the pitfalls and the dangers to his foundation from his principles of mechanics.

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[3] Kingsford: Lancet, London, 1904.

[4] Godlee: Brit. Med. Jour., Nov. 19, 1904.

[5] Cushing, Harvey: "Experimental and Surgical Notes on the Bacteriology of the Upper Portion of the Alimentary Canal, with Observations on the Establishment there of an Amicrobic State. as a Preliminary to Operative Procedures on the Stomach and Small Intestine." Vol. ix, Johns Hopkins Hospital Reports.

[6] Hewetson, John T.: "Bacteriology of the Human Alimentary Canal and of the Inflammatory Processes Arising Therefrom." British Medical Jour., Nov. 26, 1904.

In diagnosis we need further teaching and study. Take for example the use of transillumination of the antrum of Highmore.[7] Expertness in this method (Druchleutung) was attained by Czermak in 1858 in studying the larynx and by Voltolini in 1888, who first transillumined the antrum while studying the bones of the face, Heryng placing it on a practical base. Vohsen in 1890, by using a stronger light, showed that the eye also might be transillumined, the pupil appearing as a red disc. In 1892 H. Brown Kelly of Glasgow showed that by this method a person with closed eyes sees a dull red glow if the antra be normal, but if the antral *tache* be absent the subjective light sensation will also be absent, and its value as an agent in chronic affections of the nose and antra, etc., needs more study. The field of investigation for the *x*-ray and stereoscopic radiography is new to us, but is yielding much valuable information as well as warnings of its dangers to both subject and operator, and showing that only skilled workers should be allowed to operate such far-reaching agents as the *x*-rays.

At the present time dental bacteriology is in its infancy. If, as Arkövy and Goadby[8] point out, we have a new form of microbe of a very pathogenetic variety in connection with pyorrheic pus, an explanation of pyorrhea or caries alveolaris specifica or interstitial gingivitis or osteomyelitis may be found, and we hope a terrible scourge in oral pathology stopped. With the present unsettled work in connection with the group of pus germs and their varieties much has to be done to prove their identity and their relationship before we can profit by the serum treatment or the effect of toxins on the peripheral nerve endings of the gingivæ. Mikulicz has recently developed a most interesting problem. By injection of nucleic acid or even of normal saline solution, an artificial hyperleucocytosis may be produced which may combat bacterial invasion even when this has already made itself manifest, such as in diseases of the stomach and intestines which demand surgical interference.

So far as I know, little or no work has been done on the influence of the growth of bone on the positions of teeth. Who has not noted pathologic effects from bone changes without any seeming cause, or with an early gingival and pyorrheal condition which may lead to atrophy, osteomalacia, crowding and even turning of the teeth from the normal?

The question of having or not having some softened dentine over a pulp nearly exposed is often wrongly interpreted; consequently excavation is too superficial and masses of carious dentine left, notwithstanding energetic disinfection. Partsch has demonstrated in his valuable work on decay of the dental pulp, that bacteria will soon migrate into the pulp and lead to its decay. By far reaching removal, however, of carious masses we reduce the danger of pulp infection to a very low point, but should we risk it unless we carefully note the type of patient? It is claimed by some that pyorrheal teeth are improved if the pulps are removed and if so how has it been proved scientifically?

Other features of interest, on account of the disfigurement and serious trouble likely to follow, are the changes which take place in the bone and tissues surrounding the teeth, causing their change of position, crowding or erosion, altering all the ordinary articulation of the teeth. So far no work on the pathology, etiology or treatment has been considered and the subject is one that requires some attention from this Section as falling within the province of oral surgery and pathology. Our public institutions, such as asylums, jails, county hospitals, and industrial homes have outbreaks of dysentery, stomach and intestinal troubles which are attributed to dyspepsia due to unsuitable food and to confinement with crowding. How many are really due to unhealthy conditions of the gums, mouth, teeth, and are often classed as scurvy? Let these patients be urged to clean the teeth and mouth, using some toothpick, brush, dentifrice or antiseptic wash, and many patients would recover without any change of diet. Let the cleansing of feeding vessels with sterile sand, plenty of soap and hot water be insisted on and diarrhea, dysentery and alimentary troubles generally would become *nil*. Why should not a dentist be appointed to inspect mouth, gums and teeth of every inmate in the Monday parades? The dental outfit should be paraded with the rest of the prisoner's or inmate's equipments. A few extra marks given for attention to these details, and for the neglect of them punishment, would benefit both health and discipline. Prisoners and patients, like other human beings, when dyspeptic or with sore teeth, mouth and gums or when otherwise out of sorts, are liable to take a distorted view of things and to become fractious. Picture a patient without proper means of cleaning his teeth for long periods at a time. The accumulations of tartar, a certain amount of septic material or the *Oidium albicans* (the latter especially if the person is debilitated from some exhausting disease as typhoid, pneumonia, influenza, malaria, and if he is receiving milk in his diet) are not long in working their effects. The gums and teeth become congested, tender and lead to the bolting of food, which, being held in the stomach, causes fermentation with dilatation and cardiac gastric and intestinal troubles and the natural sequences, diarrhea, colitis, appendicitis, biliary catarrh and dysentery. If one believes in the "dysentery ulcers" of the mouth (Cheyne and Burghard) although their exact relation to the stomachic condition is not clear, it is easy to infer how the etiology is established and the course of disease continued. I believe that in many jails in Bengal steps are taken to enforce cleanliness of the teeth by toothpicks, use of toothpowder made of charcoal and powdered burnt alum. The East Indian and African in free life is very careful of his teeth and every opportunity should be given him in prison to keep up this cleanly practice.

The question of the teeth of children in elementary schools is one of our greatest difficulties and since we know the dangers of oral sepsis and its possible origin of septic, pyemic conditions, pneumonia, diphtheria, etc., it becomes one of the greatest gravity. The estimation of dental caries can be better made and its progressive increase will be seen. To arrive at the etiology we shall have to go to the infancy period and see that the chief predisposing causes are heredity and malnutrition; the determining cause is the general neglect of the mouth, but especially allowing the food to accumulate about the teeth and so, by the lactic acid and such micro-organisms as yeast or streptococci acting together, the albuminous substance is dissolved and decalcification of dentin takes place. Improper and insufficient feeding of the mother before the birth of the child should be carefully guarded against. The tendency to use only patent foods instead of pure milk is known to affect the two sets of teeth seriously. Some recent observations by Dr. William Hall of Leeds, England, between the children of Jewish and Gentile parents at various ages shows the Jewish child was not only better developed physically but suffered less from bad teeth. In Mrs. Watts Smyth's book, "Physical Deterioration," we find the following:

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[7] British Medical Journal, March 25, 1905.
[8] British Medical Journal, Nov. 19, 1904.

> Comparing a Gentile school in a good district with a Jewish school in a similar one, Dr. Hall says that the Gentiles had 8 per cent. rickets, 38 per cent. bad or backward teeth; the Jews 5 per cent. rickets and 11 per cent. defective teeth. In a Gentile school in a poor district there was 50 per cent. rickets and 60 per cent. bad or backward teeth; in the Jewish school 7 per cent. rickets and 25 per cent. bad or backward teeth. The percentage in the Jewish poor district town school was better than the country school, where 7 per cent. had rickets and 33 per cent. bad or backward teeth. As evidence that this condition of the teeth is associated with better physical development the Jewish child aged 7 years weighed on an average four pounds more than the Gentile, at 9 years seven pounds more. Jewish women are better taken care of during pregnancy, more anxious to nourish their children, more attentive in early chilhood and feed them more intelligently.

Once a tooth is formed, nothing will change it for the better, so that the effects of imperfect nutrition will only influence the portion of the teeth then being calcified. Damage done during calcification can never be undone and we are well acquainted with the effect of any serious illness on the hair and nails. Carious teeth give pain of a recurring and most wearing and aggravating character, as well as loss of rest and subsequent impaired usefulness, not only to the sufferer but to all the household as well. This is bad enough for one of mature years, but is more serious for a young child, as it leads to fear, pain, imperfect mastication, dyspepsia, anemia, defective nutrition, intestinal and gastric troubles with toxic effects local and remote, and stunting of the growth—to say nothing of the irregularities in the jaws and teeth—and, added to all this, the infliction of much suffering on others, for his exhaled breath is even worse than that which reaches his lungs. The remote effects are so great as to be legion: Suppurating glands of the neck, diseases of accessory cavities of the jaws, to say nothing of the cancers of the tongue and jaws. If, instead of teaching unnecessary subjects, a little more time were spent in cleaning teeth with some antiseptic tooth powder on the child's arrival in school and before leaving, something might be done. Where some children are taught cleanliness, many are not, for with mixed schools, all classes of children work together and disease is carried from one to another and unclean mouths should be rejected as we would suppurating eyes, ears, or necks.

A subject which has interested me during some histopathologic work is the cause and frequency of a condition resembling obliterative arteritis in the pulps and periodontium. It has some bearing, I believe, on the question of alveolitis, gingivitis and their sequelæ, for in some cases examined pathologic conditions similar to those found in the lower extremities (i. e. in the dorsalis pedis artery, and in the popliteal and tibial vessels) have been described. The lumen is wholly or nearly obliterated by fairly dense connective tissue and round-celled infiltration, and in others are organized thrombi, with well marked and thickened intima and media. Further study of a collective series of cases would perhaps aid in the understanding of so-called pyorrheal conditions, atrophy and recession of the gums with corresponding loss of the teeth. If I might suggest, there should be a collective investigation committee or bureau to which material could be sent and members could then by mutual help, discussion and literature, aid in determining some of the leading questions as to etiology and treatment of many conditions. In a country so large and widely scattered, much valuable material is lost, but, if a bureau of workers were formed, material could be placed in the hands of those competent to study it and could be reported on at the meetings and through the journals, for we sadly need a dental literature index, so we could know something of what others are doing. The loss to workers through the discontinuation of the bibliography by the *Dental Cosmos* can hardly be realized, for few can afford to file all the journals necessary to follow up that work. Tropical diseases are everywhere taking lead with our scientists and it is interesting to see some of the work that is being discussed which has an important bearing to oral pathology and which is bringing to light facts in relation to the teeth, jaws and tongue. Our program shows very nicely the wide application of medicine to dental surgery, of tropical medicine to pathology; the close relationship of the M.D. to the D.D.S.; the need of a broad scientific education as well as its mechanical principles; the value of the bibliographic study; the need for special research; the appointment of dental surgeons to act in public institutions as well as in the Army and Navy; the utilizing of material for study by a bureau of investigation and the early teaching of hygiene to the mother and child so as to increase the physical and economic improvement of our people.

DISCUSSION.

Dr. M. L. Rhein, New York, stated that he is in thorough accord with Dr. Latham's idea of a central bureau for scientific study of pathogenic or other specimens that might be sent from various parts of the country, and hoped that such a plan could be put on foot.

Dr. Eugene S. Talbot, *Chicago*, said that, though the average dentist does not see anything in relation to his specialty but the mechanical side, within the last few years certain men in the country have demonstrated that there is hardly a pathologic condition of the mouth that is not due to some constitutional cause. He considered that, perhaps, the most important point in Dr. Latham's paper is that in regard to the treatment and care of the mouth during the development of the child. Almost all of the deformities and pathologic conditions of the mouth, he said, can be produced by a want of proper nourishment; the first period of stress is probably the most important period in the development of the child, and deformities of the jaws, irregularities, etc., are apt to occur when the tissues begin to form. He agreed with Dr. Latham that nerve-end degeneration has much to do with the development and disease of the teeth. In the specialty of stomatology, as well as in other specialties in medicine, autointoxication and mouth infection are important causes of disease, and if this specialty is to take rank with other specialties of medicine these three important points must be considered.

Dr. M. I. Schamberg, Philadelphia, declared that workers in this field are better able to realize its scope than the average dentist or the average practitioner of medicine. It is always a great pleasure to be able to do for patients that which so many others fail to accomplish, and it is for the purpose of spreading this information to the general practitioners of medicine and dentistry alike that the Section takes up these topics. It is a pernicious practice to retain abscess teeth until beyond the acute stage, but extraction of those teeth invariably is not to be advised. In Philadelphia there has recently been established a corps of medical examiners, but it may be some time before it will be possible to place dental examiners in the public schools. From what Dr. Rhein is able to learn there are very few children in the schools whose teeth are not badly neglected; and it shows the necessity for a united effort on the part of dentists throughout the country.

Dr. John S. Marshal, San Francisco, believed that with absolute oral cleanliness it would only be two or three generations before dentists would be scarce. Diseases of the mouth are usually diseases of neglect and sometimes of filthiness. Some individuals, even ladies, are perfection in dress, in the way they take care of their skin, their finger nails, etc., and yet when they open their mouths the odor of their breath, the discoloration of mouth and teeth, are disgusting. We make the mistake of not beginning early enough with children. Though they may become lax for a time, after they get a little older they will fall into line. Dr. Marshal believed that a great many gastrointestinal diseases and many diseases of the respiratory organs are due to infections from the mouth. He reported briefly several cases illustrating this point. A woman who had been suffering for three or four years with what she supposed was malarial trouble, and who had changed physicians a dozen or more times, getting no better, but being in wretched health, finally came to Dr. Marshal. She had salivary calculi all over her teeth, the gums were badly inflamed and could not be touched without bleeding, pus oozed up around the teeth. It was two weeks before he even got the teeth clean. He then gave her mouth washes and taught her to clean her teeth and to use a toothpick and to use floss silk, and in about four months she was well. The difficulty was entirely due to constant infection from the mouth. Another woman, pale and emaciated, said that she had not been well for four or five years, and that physicians did not seem to be able to do anything for her. She said that her mouth was sore and her teeth loose. She had a partial silver plate with clasps in the upper jaw, and it was utterly buried with salivary calculi between the teeth. It was so bound in position by the calculi that it could not be removed. She did not know that she should remove the plate at night. She said that she had worn it for seven years without taking it out. She was suffering from infection from her mouth and tonsils. On cutting away the salivary deposit, the gum beneath the plate was found to be as raw as fresh beef; the mucous membrane was all destroyed. She recovered after several months' treatment. Dr. Marshal considered this another illustration of constitutional conditions coming from infection from the mouth. He has also seen many soldiers from the Philippines. The majority of these men are from the lower walks of life and have very little education—certainly no idea of hygiene except what is taught them after they come into service. They know absolutely nothing of the care of the mouth; probably never even owned a tooth brush. It is a part of the dentist's duty to teach these men the use of the tooth brush. Those coming home from the Philippine Islands frequently have salivary deposits all over the teeth, the gums badly inflamed, and many of them suffering from pyorrhea. Some of these men are sent home with dysentery or diarrhea. Dr. Marshal said that a thorough cleansing of the mouth, the use of a proper tonic, and giving good mouth washes to keep the mouth clean and to tone up the tissues, have produced wonderful results in many cases of diarrhea. Some have been under treatment for four or five months; others eight or ten months: they usually become well finally. With those having dysentery it has not always been so beneficial. Some are markedly improved, and a few have been cured. Amebic dysentery can not really be traced to infection from the mouth. Dr. Marshal believes that many of these gastrointestinal disturbances are due to secondary infections from the mouth.

Dr. Frank L. Platt, San Francisco, stated that he is particularly interested in the examination and care of the teeth of the children in school, though he does not know what course can be taken to bring about that much desired condition of affairs. He said that he was appointed on a committee to interview the Board of Education in San Francisco to see what could be done there, and he does not believe that he was ever treated more shabbily in his life, and he really started out with honest intentions. After reviewing the work done in Europe and some of our eastern cities and states, the committee did not seem to be at all impressed with the importance of the matter. When Dr. Platt referred to the fact that several years before the board had appointed an oculist to examine the eyes of the children in schools, it was insinuated that pecuniary profit had a part in the motives of the professions concerned. These bodies must be impressed with the importance of this work. Back of it all there must be a change in education, dentists must be better educated. With men and women who realize the importance of this specialty, and who are enthusiastic, there will be an impulse that will not be put down. Dr. Platt stated that he has spent considerable time in work along this line and is utterly disheartened to find how few men or women are really enthusiastic. Most of them are working for bread and butter. It is hard to arouse any enthusiasm, and I think the fault lies in the foundation—in the teaching. It is of vital importance to the coming generation of people in this and every civilized country that mouths be taken care of. If the authorities could be impressed with the importance of this matter so that they could not pass it over with a slur, then something might be accomplished. It might be a good plan for some of the profession to be elected mayors of cities. Back of it all, he said, there is the question of scientific education and enthusiasm of the student; that it may not be simply a means to an end, and that end bread and butter.

Dr. G. V. I. Brown, Milwaukee, declared that the stomatologist must himself be educated; the members of his profession must be better educated; the general practitioner of medicine should be educated in this direction; the people should be educated, and the patient should be educated. Dr. Brown said that when he hears discussions of this sort he always feels that some tribute ought to be paid to the men who for years and years in the face of great discouragement have patiently persisted and lent their best efforts to the fixation of one idea, that this branch of medical science needs special care and education, and that it is of unusual value to the human race. This can be accomplished, first, by elevating the science in such a way that scientific men can be made to understand that these things are true. Other people can be impressed by actual demonstration with the seriousness of these affections, and demonstration also of the simplicity of their correction at an early period. Everybody knows in a general way the possibility of infection of the mouth causing serious disturbance, but they do not, and dentists do not, recognize these conditions in an incipient state. Patients with these disturbances come first to the dentist, and the dentist does not recognize them. Dentists can all recognize them when they have reached a serious stage, but they fail to understand early enough that they are serious conditions.

Dr. V. A. Latham said that a better medical training is needed, not a dental training. Dentists are all apt to become mechanical; they do not connect the medical work closely enough with the dental. It is like teaching students histology and pathology without anatomy; they do not get foundation principles, and in that way they miss the anatomic bearings to the detriment of all their work. Crowning, bridging, etc., are always taught because the dentist is supposed to replace lost organs and in that way to strengthen them; but he must first see that the primary organs are in good condition. Therefore, Dr. Latham thinks that some pressure should be brought to bear on the dental schools. She asked why dentists are the only specialists who are required to have a special degree, and why the dentist should be anything other than a doctor of medicine. Every man, Dr. Latham thinks, should be trained as a physician for dentistry, and then allowed to specialize; mechanical training is not the only thing. Her experience with girls about the age of puberty is that many cases of chlorosis come with inflammation of the gums and ultimately lead to pyorrhea. If the medical man could be trained in the early symptoms of pyorrhea, she believes that much good could be done. Dr. Latham declared that none of us know the etiology of half the mouth infections, and that it is only by the co-operation of both the medical and the dental branches that the best results can be obtained.

Original Articles

THE TREATMENT OF SUPPURATIVE AFFECTIONS OF THE FACE AND NECK EMANATING FROM THE MOUTH.*

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Early in the history of medical science, surgeons realized that to render the human economy a service meant to imitate and to anticipate Nature's own method of disposing of disturbing elements. Thus the evacuation of pus whenever it is found within the body became one of the cardinal principles of surgery.

Suppuration is a cleansing process, an effort to throw off a virulent irritant. Unaided, the vital forces will ultimately effect an evacuation of a pus cavity, but the method is slow and is attended with certain dangers, prominent among which may be mentioned a change in the integrity of the surrounding structures.

For a long time, the use of poultices which would bring boils "to a head" and cause abscesses "to point" was considered proper treatment. Now most surgeons advocate the prompt evacuation of suppurating areas as soon as the presence of pus is determined. Why many should fail to apply this more advanced method of treatment to abscesses associated with the teeth and jaws it is difficult to say. There is no part of the body surface where a scar following the rupture of an abscess is more disfiguring than on the face or neck, and yet how often do we meet with extensive suppurations in these regions which have been encouraged by the use of the hot water bag or the poultice. Unfortunately, relief from pain is frequently effected by the application of heat to the face during attacks of dentalgia and patients are ever ready to apply this treatment. It, therefore, becomes the duty of medical and dental advisors to discourage this unwise practice, for most affections about the jaws which can be relieved temporarily by heat are suppurative in nature.

The larger proportion of pyogenic infections of the face and neck, save those which occur through the skin, emanate from the mouth. The throat and nose are occasionally the seats of initial infections which spread to other parts of the face; but the oral cavity proves to be the most prolific source for the invasion of pus-producing organisms. This is evidently due to the fact that the teeth, by virtue of their presence in the mouth and the various diseases to which they are subject, invite the lodgment of food and other oral débris and transmit infections to the deeper structures. Edentulous mouths are seldom troubled with extensive suppurative processes. It is true that pus organisms may gain entrance into the tissues through wounds within the mouth, by way of the ducts of the salivary and mucous glands and by direct absorption, but such infections are unusual and are of serious moment only in patients with markedly debilitated constitutions.

Suppurative parotitis and other deep-seated infections which have no etiologic relation to the teeth are usually handled intelligently by the general surgeon, and, therefore, will not be considered at length in this paper.

So often do patients present themselves with swollen faces indicating suppurative foci in the superior maxillary, inferior maxillary and submaxillary regions in which the symptoms of tooth involvement are obscure, that a careful examination of the mouth becomes necessary for the proper detection of the underlying trouble. It must be remembered that the exciting cause of a maxillary, palatal, pharyngeal, tonsillar, buccal or cervical disease may be located in or about a tooth and that the successful treatment of any suppuration is dependent on the true recognition of its etiologic factors. Some of the most usual abnormalities about the teeth which cause a breaking down of the adjacent tissues are the apical and peridental abscesses, and these are occasionally difficult of detection until such time when a fistula is created or the parts become swollen. A putrescent pulp in a tooth with little evidence of its presence has been known to produce maxillary troubles of considerable magnitude. Ofttimes a pyorrheal pocket may go unobserved for some time and may cause involvement of the nearby tissues, and, secondarily, of the lymphatic glands. It is evident, therefore, that to properly treat suppurations which take place about the face, a just regard must be given mouth conditions which may be active in causing such infections.

Another class of cases are those in which infection takes place in distant parts through the lymphatics. During the past year, a number of patients came under my observation in whom the lymphatic glands of the submaxillary and cervical regions had become enlarged through infection which took place about impacted third molars and from other pus areas in the mouth. These conditions in themselves appeared to be of little consequence and might readily have gone unobserved had not a careful examination of the mouth been made. Inflammations spread very rapidly to the deeper tissues from pockets formed about lower third molars and may extend to the throat, leading to suffocation, as a result of an inflammatory edema of the glottis. A case in which the throat was so badly swollen as to interfere with respiration, came under my care last summer and received prompt relief by the removal of a crowded third molar. When inflammation extends to the temperomaxillary articulation, the examination of the mouth is frequently rendered difficult through fixation of the jaw. In some cases in which the lymphatics become involved, the glands are so badly overworked that they break down and require surgical means of ridding them of their contents. The suppuration of the neck in two cases seen by me during the past winter was so extensive as to suggest Ludwig's angina. In fact, it is not unreasonable to suppose that in most, if not in all cases of Ludwig's angina, the avenues of infection, if sought for, might be located within the mouth. The statement made by many authors that such cases usually occur after typhus fever and other debilitating diseases, merely substantiates this belief, for during the course of most protracted fevers unless the greatest care is given to cleansing the mouth it will be found to be in a deplorable state of filth.

The treatment of suppurative affections of the face and neck which emanate from the mouth may be considered under the heads of preventive, abortive and curative treatment.

PROPHYLAXIS.

Preventive treatment consists of the proper attention to the care of the mouth and teeth. The scope of this work is so broad as to include all departments of dentistry. It would, therefore, be manifestly impossible, as well as inadvisable, to deal in this short paper with all that might be embodied in the practice of oral prophylaxis. Suffice to say, that if all mouths were to receive a reasonable amount of intelligent care in the hands of competent dentists and if this work were supplemented by the patient's personal attention to oral cleanliness, many of the extensive suppurations about the face and neck would be averted.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

In connection with preventive treatment, too much stress cannot be laid on the importance of curing every abscess, checking the pus discharge in every pyorrheal case and removing other infective foci, even though the loss of teeth is thereby necessitated. An emphatic stand must be taken in this regard for the reason that the prolonged retention of uncured teeth not alone endangers the integrity of the surrounding tissue, but ofttimes lays the patient liable to constitutional disorders of a more or less grave nature.

ABORTIVE TREATMENT.

Abortive treatment is applicable in cases in which there has been little suppuration, and is dependent primarily on the removal of the cause, and secondarily on the institution of such measures as will check the inflammatory changes which have taken place in the tissues, and thus aid Nature in restoring the parts to the normal. The intermittent application of cold compresses or the ice bag has proved to be of considerable value in reducing the inflammatory swellings about the face and neck, and has frequently prevented the breaking externally of abscesses in these regions. While a cold application to the face does not afford the comfort or relief from pain that heat does, its tendency is to prevent rather than to encourage suppuration. Ichthyol ointment and other similar preparations are occasionally of value in mild inflammations affecting the soft tissues of the face and neck, but have the disadvantage of acting like a poultice when pus has already formed. In all cases in which an infection is known to have occurred from within the mouth, the patient should be instructed to use with regularity a good antiseptic mouth wash. If the lymphatic glands of the neck have become enlarged, the therapeutic application of the *x*-rays will be found of service in reducing them. In all cases, when enlarged glands of the neck have not disappeared after the initial trouble has subsided and when other methods of treatment have failed, the *x*-rays should be given the opportunity to cure before resorting to excision. X-ray treatment in my hands has been a valuable adjunct in dealing not alone with enlarged glands, but with many suppurative conditions about the face, including alveolar pyorrhea.

CURATIVE TREATMENT.

Curative treatment consists primarily in the evacuation of pus as soon as its location is detected. If the case is seen early, this can usually be done by incising the abscess from within the mouth. If the disease is at the end of the tooth and has not yet passed through the alveolar process and drainage can not be readily accomplished through the root canal, the abscess can be reached by piercing the process with a spear-pointed drill.

The extraction of the tooth at fault is usually followed by relief and little or no subsequent treatment is necessary in the vast majority of cases to produce a permanent cure. The sacrifice of a tooth is justifiable in cases in which the patient's life or health is put in jeopardy by its retention, or when the removal of a tooth will prevent the necessity for draining an abscess through an external opening on the face or neck.

When once the decision is reached that a tooth will be of no further service to the patient, or that its removal is essential to the cure of an abscess, no time should be lost in relieving the patient of the offending member. The antiquated method of awaiting the passing of the acute stage is without justification and this practice should be condemned as obsolete and pernicious.

Removal of teeth will not, however, invariably effect a cure or adequately drain an abscess. Recognition must be given to cases in which the pus has burrowed its way through a small fistula in the jaw bone and set up a more extensive abscess in the soft tissues beyond, as sometimes occurs in the infraorbital region above and in the submaxillary triangle below.

Abscesses from the upper teeth which spread to the roof of the mouth or infiltrate the cheek can be readily evacuated by incisions made within the mouth. Many abscesses in the lower jaw can likewise be opened into the oral cavity, but when, as sometimes takes place, the pus has reached the submaxillary triangle, the extraction of the tooth or an external opening on the neck becomes necessary.

In operating on abscesses of the face and neck which require external openings, large incisions are seldom, if ever, warranted. For some time I have been using a trocar and cannula in place of the knife for puncturing these abscesses. The pus will readily drain through the cannula. As soon as the trocar has been removed, a small piece of rubber drainage tube with mural apertures can be inserted in place of the cannula and allowed to remain until all pus discharge has ceased. The resultant scar from this surgical method, in most cases, will prove to be nothing more than a submaxillary dimple, and in some instances is no more conspicuous than the average pock mark. In all these cases every effort should be made to produce as little facial disfigurement as possible, and the method of operative procedure that has just been outlined will do much to overcome the unsightly scar that follows the gaping wound that many surgeons make. A very small opening with a trocar and cannula, followed by curettement and the insertion of a small-caliber drainage tube, will be sufficient to assist Nature in ridding itself of the most extensive abscess that appears in the regions referred to.

It might be well to keep in mind the necessity for passing a safety pin through the outer end of the tube, or for adopting some other means to prevent its being lost in the abscess cavity.

A large, wet bichlorid of mercury dressing applied to the part and held by an oblique bandage will prevent the tube from slipping out and will catch the discharge from the wound. It will be found necessary to shorten the tube as the swelling subsides. The daily change of dressing and syringing of the abscess through the drainage tube will be followed by a cessation of pus-discharge within a week or two. The tube may then be removed and the wound allowed to close. During its healing, an ichthyol ointment dressing will act as a convenient protection. If the induration of the subcutaneous tissues and the enlargement of the glands are slow to disappear, the *x*-rays might be applied to hasten the resorption of the inflammatory infiltrate.

DISCUSSION.

Dr. John S. Marshall, San Francisco, said that he recently had a case of infection either from a hypodermic needle which had not been properly cleansed, or else the cocain solution had spoiled. The operation was performed by his assistant during his absence, and when he returned the patient had a bad infection abscess in the maxillary triangle. Cocain had been used for the extraction of a tooth. Of course there is the possibility of infection having come from the tooth itself, but it was so much further forward than the location of the tooth that Dr. Marshall was inclined to think infection came from the injection of cocain. A patient with a badly swollen jaw consulted Dr. Marshall, who could find no tooth on that side that could by any possibility have been the cause of the trouble; on further examination he discovered an ulcer under the tongue near the base, and could form no other opinion than that this abscess was caused by absorption through this ulcer. Both of these operations had to be external. In the first case he removed at least a teacup full of pus; in the other less. He was called to see a patient with an impacted lower third molar with tremendously swollen face and neck. He operated and took out at least a pint of pus. That was an infection from the molar. He did not see the patient until long after suppuration had been established, so there was no opportunity for either of these patients to have done anything in the way of prevention. Sometimes these cases result in septicemia. In the case of a man who had a large abscess in the neck, there was a tremendous amount of swelling, the facial artery had been injured in an operation to evacuate the pus, and later emphysematous gangrene occurred in the location of the ligature, which slipped off in the night and the man bled to death.

Dr. G. V. I. Brown, Milwaukee, said that to him there is nothing more puzzling than to know when to make an opening from the outside, and just what kind of an opening. He said that it sounds like a confession of weakness, but it is a grave question early in a case whether to continue in the effort to evacuate on the inside, or to operate.

Dr. M. L. Rhein, New York City, said that infection proceeded by absorption through the lymphatic glands in pyorrhea, but only when there are other complications than true pyorrhea alveolaris. He has never known of a simple pyorrhea alveolaris, in which the pathogenic conditions were preceded by absorption. He has always found some subsidiary complication.

Dr. Schamberg maintained that pus in the mouth can gain entrance into the lymphatic channels by absorption. Opening through the canal is contraindicated, except to give vent to organisms before they have invaded the surrounding tissue, and that only when there is no fistula. In wisdom teeth, the prompt removal of those teeth is the best cure. This treatment is only good in acute cases.

THE ETIOLOGY OF TOOTH AND NAIL CORRUGATIONS.*

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Very early in my professional career, the peculiar markings I frequently noticed on the teeth of some of my patients excited my curiosity and I determined to ascertain, if possible, their cause and significance.

These markings, in some cases, were in the form of opaque spots and in others they were latitudinal corrugations somewhat resembling the wrinkles on a cow's horns. These signs were not always present in the teeth of all of the members of the same family. In my researches, I often noticed similar markings on the nails; the lines being both latitudinal and longitudinal. I could not, however, always find these markings in both the teeth and the nails of the same individual at the same time.

I could find but little in medical books or periodicals relating in any way to the subject of tooth markings. References to and descriptions of the pits in the enamel which were supposed in some way to be associated with the eruptive fevers occurring during the period of dentition, and Hutchinson's notches, included nearly everything that had any scientific value. Even now I find but little in addition to what was then given by Hutchinson.

This paucity of literature is undoubtedly due to the widely spread belief that these markings indicate nothing of importance to the practitioner. Such an opinion I regard as erroneous. They have at least an etiologic place in medical literature and, for this reason alone, are worthy of the attention of those who are interested in the general study of causes and effects. They also have other and more practical features of interest—features of which no one engaged in the practice of medicine or dentistry should be ignorant.

It is true that these markings point only to abnormal and interrupted changes in nutrition that occurred perhaps a number of years in the past, when the enamel was soft and impressionable and which, consequently, can have no direct connection with present conditions. But, even so, they serve the very important purpose of revealing and confirming the existence of past diseases, a knowledge of which is necessary to complete the history of any given case. Moreover, they are particularly valuable if detected in their formative stage, because they indicate the origin and nature of the malnutrition which, by proper treatment, at this early period, can be corrected.

After studying and comparing the history of many cases, I became satisfied that the transverse lines on both the nails and the teeth were caused by auto-intoxication of which rheumatism is the result, and that they were more plainly developed, and perhaps alone present in the more painful varieties of this affection, such as lumbago, sciatica, and arthritis, while the longitudinal lines pointed to intestinal indigestion and were especially prominent in colitis, proctitis and hemorrhoids.

It then occurred to me that the corrugations on the teeth of young children might have been caused by an attack of rheumatism from which the mother suffered during gestation.

Years afterward, I found this hypothesis to be correct by the discovery, substantiated by ample evidence, that mothers who suffer from rheumatism during gestation bear children whose teeth are corrugated, and that the teeth of children who have rheumatism during the period in which the enamel of the permanent teeth is developing are also corrugated.

From these facts I was forced to conclude that the responsible cause of the corrugations on both the teeth and the nails was auto-intoxication. Auto-intoxication, as is well understood, results from the absorption of certain toxins, as ptomains, etc., which arise from the intestinal fermentation. These interfere with normal functional activity, clog the emunctories, pollute the blood stream, and produce a substance, readily seen in the blood, called rheumatic fibrin.

That the auto-intoxication which occurs from the absorption of these bodies is the cause of rheumatism, is a conclusion I arrived at eleven years ago, while suffering from an attack of this affection so severe as to render me helpless for many weeks. This opinion was amply verified, afterward, by clinical experience and research.

Formerly, the presence of fibrin in the blood was believed to be compatible with a healthy condition of the system, but now its existence is held by some to have a pathologic significance only, and to afford the most reliable means of verifying the diagnosis of fibrinogenous disorders, as apoplexy, valvular disease of the heart, tuberculosis, rheumatism, etc. According to this view, even the slight traces of fibrin which some pathologists still maintain is an ingredient of healthy blood, are really due to the prodromal manifestations of disease. The nature of the disease is determined by the appearance and its severity by the quantity of fibrin present.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

It is interesting to know that Drs. Watkins and Salisbury claim that the leucocytes produce fibrin after the manner in which the spider spins its web. It is a question in my mind, however, whether these active organisms, instead of creating fibrin as these authors maintain, are not in reality laboring to destroy it. This view is certainly more in harmony with the relation leucocytes are known to sustain toward many other pathologic elements in the blood.

Opaque spots, when found in either the enamel or nails are also an indication of auto-intoxication. As the finger nails of some patients are so carefully and sedulously manicured that all signs, which would otherwise appear, are obliterated, the toenails, in doubtful cases, should be examined, as they will exhibit similar markings.

The lines on the nails will disappear if the system is freed and kept free from auto-intoxication; for the corrugations which appear at the matrix to-day will disappear at the tip in the course of three or four months. When these markings are absent, it is fairly sure that your patient is not suffering with any serious form of either rheumatism or intestinal indigestion.

The fineness or coarseness of the markings correspond with the degree of the severity of the attack, and the position of the latitudinal corrugations determines the date of the attack. If they are found near the end of the nail, it is safe to conclude that the attack occurred about four months previously; if they are found at the center of the nail, about two months will cover the time that has passed since the attack appeared; if the lines are near the matrix, the disease has not existed longer than two or three weeks.

If the longitudinal lines are broken and irregular, they indicate an attack of intestinal disturbance of unusual severity, such as occurs in colitis, proctitis and gout. The position of these angular interruptions in the longitudinal lines, denotes, as is the case with the corrugated lines, the period of time that has elapsed since the attack occurred. It is interesting to note how thin and how brittle the nails become in certain stages of rheumatic affections.

From the foregoing facts and illustrations deduced from clinical experience, it is easy to understand how greatly familiarity with these physical signs will aid the practitioner in making a correct diagnosis of the condition of his patient.

7 West Fifty-eighth Street.

DISCUSSION.

Dr. M. H. Fletcher, Cincinnati, said that the markings on the nails are an established guide to physicians, and that they are especially indicative of disorders of the alimentary canal; but any acute wasting disease which so reduces the assimilative processes of the body that destructive metabolism is present for a period of one or more days will cause transverse corrugations in the nails. The number, size and depth of these are determined by the severity and length of time that destructive metabolism is present. Pneumonia, pleurisy, or any acute attack will show these markings as surely as derangement of the alimentary tract. On this principle, Dr. Fletcher agreed that auto-intoxication of sufficient intensity to bring on an attack of rheumatism would show just as quickly as though it resulted in some other form, but he was not prepared to accept the idea that these markings are especially connected with rheumatism any more than with other diseases. Under the same conditions the enamel organ would be affected while enamel is being formed and leave the markings on the teeth. Dr. Fletcher said that he did not see how Dr. Curtis would know that markings were being formed on the enamel before the teeth were erupted, so that he could "administer proper treatment at this early period."

Dr. John S. Marshal, San Francisco, said that all dentists see those cases and attribute them to some disease occurring in early childhood during the formation of the enamel. One can tell within six months or a year when these changes took place, and at what period this child suffered from an arrested nutrition or an arrest in the growth of the teeth themselves. A child suffering from measles, scarlatina, diphtheria, in fact, from anything that disturbs the process of nutrition for a time, even a few days, may have marks developed on the enamel. In syphilis also and after the use of mercury cases show more or less notches, which Mr. Hutchinson first described. He first thought that they were entirely due to syphilis, but later he said that the use of mercury to salivation would cause them. These striæ occur in persons suffering from acute rheumatism. Dr. Marshall is in the habit of examining the finger nails of patients, but he has never seen a gouty individual with those striations.

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TO WHAT EXTENT ARE TEETH NECESSARY TO CIVILIZED MAN.[*]

M. H. FLETCHER, D.D.S., M.D.
CINCINNATI.

This discussion as to the doubtful necessity of teeth to civilized man, is not from the view point of "a bald and toothless future," nor is it to imply that I do not believe in their utility, comfort and beauty; on the contrary, I believe that the full number of perfect teeth in their normal position, with healthy environment, gives the best balance, the best harmony and the most satisfaction from every view point, but what civilization may evolve in the future, seems so many ages ahead that it hardly need concern us at the present time. Nature is so kind, however, that she has fixed on us a wide margin of variation from our present standard of normal, and still preserves to us a good state of health.

This is true both in anatomy and physiology, other-had not been properly cleansed, or else the cocain solution had spoiled. The operation was performed by his assistant during his absence, and when he returned the patient had a bad infection abscess in the maxillary triangle. Cocain had been used for the extraction of a tooth. Of course there is the possibility of infection having come from the tooth itself, but it was so much further forward than the location of the tooth that Dr. Marshall was inclined to think infection came from the injection of cocain. A patient with a badly swollen jaw consulted Dr. Marshall, who could find no tooth on that side that could by any possibility have been the cause of the trouble; on further examination he discovered an ulcer under the tongue near the base, and could form no other opinion than that this abscess was caused by absorption through this ulcer. Both of these operations had to be external. In the first case he removed at least a teacup full of pus; in the other less. He was called to see a patient with an impacted lower third molar with tremendously swollen face and neck. He operated and took out at least a pint of pus. That was an infection from the molar. He did not see the patient until long after suppuration had been established, so there was no opportunity for either of these patients to have done anything in the way of prevention. Sometimes these cases result in septicemia. In the case of a man who had a large abscess in the neck, there was a tremendous amount of swelling, the facial artery had been injured in an operation to evacuate the pus, and later emphysematous gangrene occurred in the location of the ligature, which slipped off in the night and the man bled to death.

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[*] Read in the Section on Stomatology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Dr. G. V. I. Brown, Milwaukee, said that to him there is nothing more puzzling than to know when to make an opening from the outside, and just what kind of an opening. He said that it sounds like a confession of weakness, but it is a grave question early in a case whether to continue in the effort to evacuate on the inside, or to operate.

Dr. M. L. Rhein, New York City, said that infection proceeded by absorption through the lymphatic glands in pyorrhea, but only when there are other complications than true pyorrhea alveolaris. He has never known of a simple pyorrhea alveolaris, in which the pathogenic conditions were preceded by absorption. He has always found some subsidiary complication.

Dr. Schamberg maintained that pus in the mouth can gain entrance into the lymphatic channels by absorption. Opening through the canal is contraindicated, except to give vent to organisms before they have invaded the surrounding tissue, and that only when there is no fistula. In wisdom teeth, the prompt removal of those teeth is the best cure. This treatment is only good in acute cases.

THE ETIOLOGY OF TOOTH AND NAIL CORRUGATIONS.*

G. LENOX CURTIS, M.D.
NEW YORK.

Very early in my professional career, the peculiar markings I frequently noticed on the teeth of some of my patients excited my curiosity and I determined to ascertain, if possible, their cause and significance.

These markings, in some cases, were in the form of opaque spots and in others they were latitudinal corrugations somewhat resembling the wrinkles on a cow's horns. These signs were not always present in the teeth of all of the members of the same family. In my researches, I often noticed similar markings on the nails; the lines being both latitudinal and longitudinal. I could not, however, always find these markings in both the teeth and the nails of the same individual at the same time.

I could find but little in medical books or periodicals relating in any way to the subject of tooth markings. References to and descriptions of the pits in the enamel which were supposed in some way to be associated with the eruptive fevers occurring during the period of dentition, and Hutchinson's notches, included nearly everything that had any scientific value. Even now I find but little in addition to what was then given by Hutchinson.

This paucity of literature is undoubtedly due to the widely spread belief that these markings indicate nothing of importance to the practitioner. Such an opinion I regard as erroneous. They have at least an etiologic place in medical literature and, for this reason alone, are worthy of the attention of those who are interested in the general study of causes and effects. They also have other and more practical features of interest—features of which no one engaged in the practice of medicine or dentistry should be ignorant.

It is true that these markings point only to abnormal and interrupted changes in nutrition that occurred perhaps a number of years in the past, when the enamel was soft and impressionable and which, consequently, can have no direct connection with present conditions. But, even so, they serve the very important purpose of revealing and confirming the existence of past diseases, a knowledge of which is necessary to complete the history of any given case. Moreover, they are particularly valuable if detected in their formative stage, because they indicate the origin and nature of the malnutrition which, by proper treatment, at this early period, can be corrected.

After studying and comparing the history of many cases, I became satisfied that the transverse lines on both the nails and the teeth were caused by auto-intoxication of which rheumatism is the result, and that they were more plainly developed, and perhaps alone present in the more painful varieties of this affection, such as lumbago, sciatica, and arthritis, while the longitudinal lines pointed to intestinal indigestion and were especially prominent in colitis, proctitis and hemorrhoids.

It then occurred to me that the corrugations on the teeth of young children might have been caused by an attack of rheumatism from which the mother suffered during gestation.

Years afterward, I found this hypothesis to be correct by the discovery, substantiated by ample evidence, that mothers who suffer from rheumatism during gestation bear children whose teeth are corrugated, and that the teeth of children who have rheumatism during the period in which the enamel of the permanent teeth is developing are also corrugated.

From these facts I was forced to conclude that the responsible cause of the corrugations on both the teeth and the nails was auto-intoxication. Auto-intoxication, as is well understood, results from the absorption of certain toxins, as ptomains, etc., which arise from the intestinal fermentation. These interfere with normal functional activity, clog the emunctories, pollute the blood stream, and produce a substance, readily seen in the blood, called rheumatic fibrin.

That the auto-intoxication which occurs from the absorption of these bodies is the cause of rheumatism, is a conclusion I arrived at eleven years ago, while suffering from an attack of this affection so severe as to render me helpless for many weeks. This opinion was amply verified, afterward, by clinical experience and research.

Formerly, the presence of fibrin in the blood was believed to be compatible with a healthy condition of the system, but now its existence is held by some to have a pathologic significance only, and to afford the most reliable means of verifying the diagnosis of fibrinogenous disorders, as apoplexy, valvular disease of the heart, tuberculosis, rheumatism, etc. According to this view, even the slight traces of fibrin which some pathologists still maintain is an ingredient of healthy blood, are really due to the prodromal manifestations of disease. The nature of the disease is determined by the appearance and its severity by the quantity of fibrin present.

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It is interesting to know that Drs. Watkins and Salisbury claim that the leucocytes produce fibrin after the manner in which the spider spins its web. It is a question in my mind, however, whether these active organisms, instead of creating fibrin as these authors maintain, are not in reality laboring to destroy it. This view is certainly more in harmony with the relation leucocytes are known to sustain toward many other pathologic elements in the blood.

Opaque spots, when found in either the enamel or nails are also an indication of auto-intoxication. As the finger nails of some patients are so carefully and sedulously manicured that all signs, which would otherwise appear, are obliterated, the toenails, in doubtful cases, should be examined, as they will exhibit similar markings.

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This is true both in anatomy and physiology, otherwise the callings of surgery and medicine would not exist, in fact, perfect physique with perfect function is so rare that it is hypothetical rather than real. The labors of a physician seem largely to be spent in endeavors to assist nature in restoring the patient to what they consider a normal state; and yet what we consider being well, is most likely quite a distance from perfection.

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In any event, many persons live, with comfort, a moderately long life, maimed in some way, or with known defects in some function. There may be loss of tissue in kidney, lungs, brain, teeth and many other organs without serious impairment of health; some of these defects man has learned to supply mechanically, notably artificial limbs, teeth and eyes.

There seems to be something about man, when he finds he is able to supply these losses, which so sets him up in his own estimation that he never loses an opportunity to try his hand, and in regard to mouth and teeth, it is my opinion that many times people are worse off for the effort.

In cases where all the teeth are lost, great benefit may result from substitutes, but no artificial denture is at all comparable to good natural teeth, even if the work be perfect, but poor work seems to be the rule and perfect work rare.

In partial losses of teeth, a large per cent. of attempts at restoration by bridgework and plates, are an injury to the mouth and remaining teeth, and little assistance in mastication, serving only as a matter of appearance, the same as a wig or a glass eye. Appearance, of course, is not to be ignored, but the insertion of jacket crowns, bridges or plates, to replace a partial loss of grinding surface is oftener a detriment than a benefit. First, because their attachments injure the teeth to which they are fastened and bridgework especially becomes filthy and serves as a place of incubation for all varieties of disease germs. Second, because they are not needed, for two molars properly opposing each other do more good work than several substitutes. Third, the actual necessity for chewing the food is not so great as is usually held.

With civilized man, the teeth have ceased entirely to be of use as prehensile organs, that is, for seizing or grasping, or as organs of defense, and the necessity of grinding the food can be replaced by machinery and cooking.

Let us consider then the manner in which the teeth assist in carrying out the processes of life. Toothless animals live on practically the same foods, as to the chemistry, that other animals do. Foods in order to sustain animal life must contain proteids, fats, carbohydrates, water and salts. The necessary chemicals for the digestion and assimilation of their proximate principles are supplied by the various glands and specialized cells of the organism. In the higher organisms these cells are largely located in the alimentary canal and its accessory glands. As digestive organs, the teeth are first, for prehensile purposes, and second for grinding, but monkeys, apes and men neither have to seize their food, nor pick it up with their teeth, because of the perfect development and adaptation of the arms and hands to prehensile uses.

The evolution of human teeth for grinding purposes, has been directed by the necessity of triturating vegetable substances in order to liberate proximate principles from their cellulose envelops (cellulose being indigestible), but since the advent of civilization this object is more effectually accomplished by milling and proper cooking, and the necessity for masticating food is almost completely done away with in man.

Carnivorous or flesh eating animals have no need for grinding because their food is all animal, and all parts of animal substances are soluble in some of the secretions of the alimentary tract. This is especially verified in the edentates whose food is exclusively animal in the form of insects.

Birds and reptiles are omnivorous, that is, they eat both animal and vegetable substances, their food is swallowed without chewing, then soaked in their crops or first stomach and afterward ground by the gizzard, or disintegrated by long maceration in the canal, as the case may be. The alimentary tract, however, supplies all that is necessary for the digestion of all nourishing material found in either the animal or the vegetable kingdoms, dissolves bones with the same certainty as other foods, and liberates starches and other carbohydrates from their cellulose surroundings.

Grass and grain-eating animals of necessity must grind the food well in order that the digestive fluids may better attack and dissolve vegetable substances, to the end that the desired proximate principles may be extracted and assimilated. The preponderance of indigestible material in vegetable matter is so great that the herbivores of necessity have larger abdomens and more ample intestines for the purpose of receiving and holding large quantities, in order that they may utilize enough food to sustain life.

All these animals have two dstinct types of teeth, namely, incisors for seizing or grasping, and molars for grinding. Their molars are all large and suitable for grinding their peculiar kinds of food. These animals are provided with other means of defense than the teeth, such as horns, tusks and sharp hoofs, or with unusual running powers.

Flesh-eating mammalia use their teeth for defense and prehensile purposes, but, as stated, have no need of teeth for grinding, the food being taken care of by the juices of the alimentary canal. Animal substances contain a very much larger percentage of nutritious material than vegetable, consequently there is not the necessity for eating such great quantities; as a result, the alimentary canal is less capacious and usually the animal is smaller than in vegetable and grain eaters. The teeth are long, sharp and strong for tearing and for defense, the claws assisting in defense and in seizing food.

Man is classed with the primates, eating all varieties of food, and for this reason is called omnivorous, the hands are used for defense and for prehensile purposes, hence the lack of necessity of long, sharp front teeth for grasping, tearing or defense. Even prior to civilization the superior intelligence of primates enabled them to select their foods, which consists of flesh, fruits, nuts, succulent roots, etc., the grinding of which is neither so difficult nor so necessary as that of twigs, grasses and raw grain.

It is easy to understand how great the loss of one or more teeth would be to an animal which depends entirely on these organs for not only procuring the food, by nipping grass, twigs, etc., but for its trituration and separation; whereas the loss of one or more teeth to a flesh eating animal would not mean so much providing enough were left for seizing and killing its prey. With the intelligence of primates, such a loss can be supplied to a great measure, by the selection of foods.

With the superior intelligence of civilized man, assisted as he is by milling and cooking, the actual necessity of teeth is almost *nil.* Laying aside the delights and entertainment of masticating palatable foods, and also the conventional ideas of beauty of the teeth, let us consider the part which chewing the food plays in carrying out the process of life and health in man.

The following quotations from the last edition of Kirke's "Physiology" seem a fair sample of the generally accepted idea of the subject:

> Page 518.—The act of chewing or mastication is performed by the biting and grinding movement of the lower range of teeth against the upper. The simultaneous movements of the tongue and cheeks assist partly by crushing the softer portions of the food against the hard palate and gums, and thus supplement the action of the teeth, and partly by returning the morsels of food to the action of the teeth, again and again, as they are squeezed out from between them, until they have been sufficiently chewed.
>
> The act of mastication is much assisted by the saliva, and the intimate incorporation of this secretion with the food is called insalivation.
>
> Mastication is much more thoroughly performed by some animals than by others. Thus dogs hardly chew their food at all, but the esophagus is protected from abrasion by a thick coating of very viscid saliva which lubricates the pieces of rough food.
>
> In vegetable feeders, on the other hand, insalivation is a much more important process. This is especially so in the ruminants; in these animals the grass, etc., taken is hurriedly swallowed, and passes into the *first compartment* of their four-chambered stomach. Later on, it is returned to the mouth in small installments for thorough mastication and insalivation; it is then once more swallowed and passes on to the digestive regions of the stomach. This is the act of rumination or "chewing the cud."
>
> In man, mastication is also an important process, and in people who have lost their teeth severe dyspepsia is often produced, which can be cured by a new set of teeth.

This "cure by a new set of teeth" I believe to be often overestimated, since many mouths are of such a shape, or the tissues in such a condition that the greatest skill can hardly create artificial teeth that are usable, and if the teeth be necessary, advice to have them extracted should be well considered before it is given. It is a fact that many never learn to wear artificial teeth with benefit, even though they are perfectly made, the whole of the digestive work being done in the stomach and intestines.

As to insalivation, the saliva in reptiles is almost entirely for lubrication, it being copious and viscid. It seems to be largely so in all animals, but more especially in the carnivorous and omnivorous animals, its chemical action, according to Kirke, being small. He says:

> Page 478.—The action of saliva is two-fold: physical and chemical. The physical use of saliva consists in moistening the mucous membrane of the mouth, assisting the solution of soluble substances in the food, and in virtue of its mucin, lubricating the bolus of food to facilitate swallowing.
>
> The chemical action of saliva is due to its active *principle*, ptyalin. This substance belongs to the class of unorganized ferments, which are called amylolytic (starch splitting), or diastatic (resembling diastase), the similar ferment in germinating barley and other grains.
>
> The starch is first split into dextrin and maltose; the dextrin is subsequently converted into maltose also; this occurs more quickly with erythrodextrin, which gives a red color with iodin, than with the other variety of dextrin called achroödextrin, which gives no color with iodin.
>
> $10\,(C_6H_{10}O_5)_n$ (starch) $+ 4n\,H_2O = 4n\,C_{12}H_{22}O_{11}$ (maltose) $+ (C_6H_{10}O_5)_n$ (achroö-dextrin) $+ (C_6H_{10}O_5)_n$ (erythro-dextrin).
>
> Ptyalin acts in a similar way, but more slowly, on glycogen: it has no action on cellulose; hence it is inoperative in uncooked starch grains, for in them the cellulose layers are intact.
>
> Ptyalin acts best at about the temperature of the body (35-40 C.). It acts best in a neutral medium; a small amount of acid stops its activity. The conversion of starch into sugar by saliva in the stomach continues for a short time, from fifteen to thirty minutes. It then ceases, owing to the action of the hydrochloric acid secreted by the glands of the stomach. The acid which is first poured out neutralizes the saliva, and combines with the proteids of the food, but when the free acid appears ptyalin is destroyed, and so it can not resume work when the acid is neutralized in the duodenum. Another amylolytic ferment contained in pancreatic juice (to be considered later), however, digests starch in the intestine.

It would seem, then, that the chemical action of saliva is so soon cut off by the effect of the hydrochloric acid in the stomach, that this action might be dispensed with, and also that moistening and lubrication can be replaced by the various beverages. Kirke further says:

> Page 488.—The conversion of starch into maltose is the most powerful and rapid of all the actions of the pancreatic juice. It is much more powerful than saliva, and will act even on unboiled starch. The absence of this ferment in the pancreatic juice of infants is an indication that milk, and not starch, is their natural diet.

Now, assuming this to be the best we know of this feature of physiology, let us add further evidence to the point in question by asking each one how many teeth he has lost and to what extent this loss actually cuts any figure in regard to his health? If you be a physician, what actual knowledge have you that the loss of even eight or ten grinding teeth really makes any difference in the health of the individual? In other words, how necessary are teeth to civilized man?

This feature is well summed up in "Tripler's Manual on the Examination of Recruits," by Chas. R. Greenleaf, Col. Asst. Surgeon General U. S. Army, April 10, 1890. Under the heading "Loss of Teeth," he *says:*

> The condition of the teeth is to be considered solely with reference to the proper mastication of food. If there are not enough in the mouth for this purpose food is swallowed without the necessary preparation, and indigestion with imperfect nutrition and its consequent evils are the result. If several of the teeth are decayed, especially about the crown, it is probable that before the expiration of an enlistment they will be so far destroyed as to render mastication imperfect; hence, men who have lost the front teeth from decay and have many unsound back teeth should be rejected. The loss of front teeth through accident is not cause for rejection, provided a sufficient number of back teeth are sound.
>
> Unless an applicant has at least four sound double teeth, one above and one below each side of the mouth, and so *opposed as to* serve the purpose of mastication, he should be rejected. Exception may be made by the Adjutant General in the case of a soldier who desires to re-enlist, if a report is made showing his age, physicial condition as to nutrition, and the number and location of the sound teeth.
>
> If the front teeth remain and the double teeth are gone rejection is demanded.
>
> If the loss of natural teeth is supplied by artificial ones, the fact should be noted on the enlistment papers; but the artificial substitutes can not be considered as equivalent in value to the natural teeth or as removing the disability on this account for military service.

The foregoing seems a practical summary of the situation; that is, that the loss of two-thirds or eight of the "back teeth" does not debar entrance, and if "back teeth," in this case, includes the bicuspids, fourteen grinding teeth could be missing and still the applicant be accepted.

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There seems to be something about man, when he finds he is able to supply these losses, which so sets him up in his own estimation that he never loses an opportunity to try his hand, and in regard to mouth and teeth, it is my opinion that many times people are worse off for the effort.

In cases where all the teeth are lost, great benefit may result from substitutes, but no artificial denture is at all comparable to good natural teeth, even if the work be perfect, but poor work seems to be the rule and perfect work rare.

In partial losses of teeth, a large per cent. of attempts at restoration by bridgework and plates, are an injury to the mouth and remaining teeth, and little assistance in mastication, serving only as a matter of appearance, the same as a wig or a glass eye. Appearance, of course, is not to be ignored, but the insertion of jacket crowns, bridges or plates, to replace a partial loss of grinding surface is oftener a detriment than a benefit. First, because their attachments injure the teeth to which they are fastened and bridgework especially becomes filthy and serves as a place of incubation for all varieties of disease germs. Second, because they are not needed, for two molars properly opposing each other do more good work than several substitutes. Third, the actual necessity for chewing the food is not so great as is usually held.

With civilized man, the teeth have ceased entirely to be of use as prehensile organs, that is, for seizing or grasping, or as organs of defense, and the necessity of grinding the food can be replaced by machinery and cooking.

Let us consider then the manner in which the teeth assist in carrying out the processes of life. Toothless animals live on practically the same foods, as to the chemistry, that other animals do. Foods in order to sustain animal life must contain proteids, fats, carbohydrates, water and salts. The necessary chemicals for the digestion and assimilation of their proximate principles are supplied by the various glands and specialized cells of the organism. In the higher organisms these cells are largely located in the alimentary canal and its accessory glands. As digestive organs, the teeth are first, for prehensile purposes, and second for grinding, but monkeys, apes and men neither have to seize their food, nor pick it up with their teeth, because of the perfect development and adaptation of the arms and hands to prehensile uses.

The evolution of human teeth for grinding purposes, has been directed by the necessity of triturating vegetable substances in order to liberate proximate principles from their cellulose envelops (cellulose being indigestible), but since the advent of civilization this object is more effectually accomplished by milling and proper cooking, and the necessity for masticating food is almost completely done away with in man.

Carnivorous or flesh eating animals have no need for grinding because their food is all animal, and all parts of animal substances are soluble in some of the secretions of the alimentary tract. This is especially verified in the edentates whose food is exclusively animal in the form of insects.

Birds and reptiles are omnivorous, that is, they eat both animal and vegetable substances, their food is swallowed without chewing, then soaked in their crops or first stomach and afterward ground by the gizzard, or disintegrated by long maceration in the canal, as the case may be. The alimentary tract, however, supplies all that is necessary for the digestion of all nourishing material found in either the animal or the vegetable kingdoms, dissolves bones with the same certainty as other foods, and liberates starches and other carbohydrates from their cellulose surroundings.

Grass and grain-eating animals of necessity must grind the food well in order that the digestive fluids may better attack and dissolve vegetable substances, to the end that the desired proximate principles may be extracted and assimilated. The preponderance of indigestible material in vegetable matter is so great that the herbivores of necessity have larger abdomens and more ample intestines for the purpose of receiving and holding large quantities, in order that they may utilize enough food to sustain life.

All these animals have two dstinct types of teeth, namely, incisors for seizing or grasping, and molars for grinding. Their molars are all large and suitable for grinding their peculiar kinds of food. These animals are provided with other means of defense than the teeth, such as horns, tusks and sharp hoofs, or with unusual running powers.

Flesh-eating mammalia use their teeth for defense and prehensile purposes, but, as stated, have no need of teeth for grinding, the food being taken care of by the juices of the alimentary canal. Animal substances contain a very much larger percentage of nutritious material than vegetable, consequently there is not the necessity for eating such great quantities; as a result, the alimentary canal is less capacious and usually the animal is smaller than in vegetable and grain eaters. The teeth are long, sharp and strong for tearing and for defense, the claws assisting in defense and in seizing food.

Man is classed with the primates, eating all varieties of food, and for this reason is called omnivorous, the hands are used for defense and for prehensile purposes, hence the lack of necessity of long, sharp front teeth for grasping, tearing or defense. Even prior to civilization the superior intelligence of primates enabled them to select their foods, which consists of flesh, fruits, nuts, succulent roots, etc., the grinding of which is neither so difficult nor so necessary as that of twigs, grasses and raw grain.

It is easy to understand how great the loss of one or more teeth would be to an animal which depends entirely on these organs for not only procuring the food, by nipping grass, twigs, etc., but for its trituration and separation; whereas the loss of one or more teeth to a flesh eating animal would not mean so much providing enough were left for seizing and killing its prey. With the intelligence of primates, such a loss can be supplied to a great measure, by the selection of foods.

With the superior intelligence of civilized man, assisted as he is by milling and cooking, the actual necessity of teeth is almost *nil*. Laying aside the delights and entertainment of masticating palatable foods, and also the conventional ideas of beauty of the teeth, let us consider the part which chewing the food plays in carrying out the process of life and health in man.

The following quotations from the last edition of Kirke's "Physiology" seem a fair sample of the generally accepted idea of the subject:

> Page 518.—The act of chewing or mastication is performed by the biting and grinding movement of the lower range of teeth against the upper. The simultaneous movements of the tongue and cheeks assist partly by crushing the softer portions of the food against the hard palate and gums, and thus supplement the action of the teeth, and partly by returning the morsels of food to the action of the teeth, again and again, as they are squeezed out from between them, until they have been sufficiently chewed.
>
> The act of mastication is much assisted by the saliva, and the intimate incorporation of this secretion with the food is called insalivation.
>
> Mastication is much more thoroughly performed by some animals than by others. Thus dogs hardly chew their food at all, but the esophagus is protected from abrasion by a thick coating of very viscid saliva which lubricates the pieces of rough food.
>
> In vegetable feeders, on the other hand, insalivation is a much more important process. This is especially so in the ruminants; in these animals the grass, etc., taken is hurriedly swallowed, and passes into the first compartment of their four-chambered stomach. Later on, it is returned to the mouth in small installments for thorough mastication and insalivation; it is then once more swallowed and passes on to the digestive regions of the stomach. This is the act of rumination or "chewing the cud."
>
> In man, mastication is also an important process, and in people who have lost their teeth severe dyspepsia is often produced, which can be cured by a new set of teeth.

This "cure by a new set of teeth" I believe to be often overestimated, since many mouths are of such a shape, or the tissues in such a condition that the greatest skill can hardly create artificial teeth that are usable, and if the teeth be necessary, advice to have them extracted should be well considered before it is given. It is a fact that many never learn to wear artificial teeth with benefit, even though they are perfectly made, the whole of the digestive work being done in the stomach and intestines.

As to insalivation, the saliva in reptiles is almost entirely for lubrication, it being copious and viscid. It seems to be largely so in all animals, but more especially in the carnivorous and omnivorous animals, its chemical action, according to Kirke, being small. He says:

> Page 478.—The action of saliva is two-fold: physical and chemical. The physical use of saliva consists in moistening the mucous membrane of the mouth, assisting the solution of soluble substances in the food, and in virtue of its mucin, lubricating the bolus of food to facilitate swallowing.
>
> The chemical action of saliva is due to its active principle, ptyalin. This substance belongs to the class of unorganized ferments, which are called amylolytic (starch splitting), or diastatic (resembling diastase), the similar ferment in germinating barley and other grains.
>
> The starch is first split into dextrin and maltose; the dextrin is subsequently converted into maltose also; this occurs more quickly with erythrodextrin, which gives a red color with iodin, than with the other variety of dextrin called achroödextrin, which gives no color with iodin.
>
> 10 $(C_6H_{10}O_5)_n$ (starch) + 4n H_2O = 4n $C_{12}H_{22}O_{11}$ (maltose) + $(C_6H_{10}O_5)_n$ (achroö-dextrin) + $(C_6H_{10}O_3)_n$ (erythro-dextrin).
>
> Ptyalin acts in a similar way, but more slowly, on glycogen: it has no action on cellulose; hence it is inoperative in uncooked starch grains, for in them the cellulose layers are intact.
>
> Ptyalin acts best at about the temperature of the body (35-40 C.). It acts best in a neutral medium; a small amount of acid stops its activity. The conversion of starch into sugar by saliva in the stomach continues for a short time, from fifteen to thirty minutes. It then ceases, owing to the action of the hydrochloric acid secreted by the glands of the stomach. The acid which is first poured out neutralizes the saliva, and combines with the proteids of the food, but when the free acid appears ptyalin is destroyed, and so it can not resume work when the acid is neutralized in the duodenum. Another amylolytic ferment contained in pancreatic juice (to be considered later), however, digests starch in the intestine.

It would seem, then, that the chemical action of saliva is so soon cut off by the effect of the hydrochloric acid in the stomach, that this action might be dispensed with, and also that moistening and lubrication can be replaced by the various beverages. Kirke further says:

> Page 488.—The conversion of starch into maltose is the most powerful and rapid of all the actions of the pancreatic juice. It is much more powerful than saliva, and will act even on unboiled starch. The absence of this ferment in the pancreatic juice of infants is an indication that milk, and not starch, is their natural diet.

Now, assuming this to be the best we know of this feature of physiology, let us add further evidence to the point in question by asking each one how many teeth he has lost and to what extent this loss actually cuts any figure in regard to his health? If you be a physician, what actual knowledge have you that the loss of even eight or ten grinding teeth really makes any difference in the health of the individual? In other words, how necessary are teeth to civilized man?

This feature is well summed up in "Tripler's Manual on the Examination of Recruits," by Chas. R. Greenleaf, Col. Asst. Surgeon General U. S. Army, April 10, 1890.

Under the heading "Loss of Teeth," he says:

> The condition of the teeth is to be considered solely with reference to the proper mastication of food. If there are not enough in the mouth for this purpose food is swallowed without the necessary preparation, and indigestion with imperfect nutrition and its consequent evils are the result. If several of the teeth are decayed, especially about the crown, it is probable that before the expiration of an enlistment they will be so far destroyed as to render mastication imperfect; hence, men who have lost the front teeth from decay and have many unsound back teeth should be rejected. The loss of front teeth through accident is not cause for rejection, provided a sufficient number of back teeth are sound.
>
> Unless an applicant has at least four sound double teeth, one above and one below each side of the mouth, and so opposed as to serve the purpose of mastication, he should be rejected. Exception may be made by the Adjutant General in the case of a soldier who desires to re-enlist, if a report is made showing his age, physicial condition as to nutrition, and the number and location of the sound teeth.
>
> If the front teeth remain and the double teeth are gone rejection is demanded.
>
> If the loss of natural teeth is supplied by artificial ones, the fact should be noted on the enlistment papers; but the artificial substitutes can not be considered as equivalent in value to the natural teeth or as removing the disability on this account for military service.

The foregoing seems a practical summary of the situation; that is, that the loss of two-thirds or eight of the "back teeth" does not debar entrance, and if "back teeth," in this case, includes the bicuspids, fourteen grinding teeth could be missing and still the applicant be accepted.

These instructions also indicate that artificial teeth are not at all considered a substitute for natural ones. It must be remembered in this connection that there is not much choice in army rations, a point which no doubt is taken into consideration by the examiner.

I believe, however, that there is no question but that in any modern civilized community, the demands of health can better be met by the proper selection of foods and their proper preparation, where the molars may all have been lost, than by the use of artificial substitutes without such care.

The mutilation of one or more good teeth for the purpose of supplying one or two back teeth in the form of a bridge, seems to be a wholly unjustifiable procedure, even if the work always remained good. In a large percentage of cases, however, either the material or the mechanical work goes to pieces in a comparatively short time, or the anchorage teeth are loosened and lost from the excessive work put on them; the anatomy being insufficient to stand the extra strain to which they are subjected.

The present status of civilized justice, and the general acceptance of the golden rule by high minded people in all walks of life, demands of our specialty that we have the knowledge, first, to advise against the loss of teeth; second, when losses must be or have been made, to be sure that substitutes will be of more use than proper instruction as to suitable diets to meet the case. Advice as to diet seems quite necessary, since the average layman's idea of physiology seems to be based on taste or opinion instead of on facts; as to this point, I am afraid some of our physicians and dentists come in for the same criticism. Justice also demands that we be above advising work of any kind for the sake of the paltry dollar.

The dollar, however, is acceptable to us as to others, and from this view point, the teaching of the desirability of perfect natural teeth, with perfect cleanliness and how to keep them so; accompanied by the necessary treatment to produce healthy, aseptic conditions, is much more remunerative, and of much more benefit, as well as of more satisfaction to the patient, than the other plan.

Now while clinical and scientific facts seem to show that man can live without teeth, or with a greatly reduced number, it certainly is most becoming in us to advise strongly against the popular idea of the slight importance of the teeth, and to renew our vigor in efforts to preserve them by preventing decay and disease of the surrounding tissues, thus escaping the trouble of premasticating foods and avoiding the undesirableness of substitutes for teeth, also being spared the chagrin and comical pathos of a toothless smile.

DISCUSSION.

Dr. Eugene S. Talbot, Chicago, said that the dentist believes that it is impossible for a man to live without teeth. Dentistry due to uncleanliness in the insertion of bridges, etc., has as much to do with disease as any other one thing. The collection of germs about an ill-fitting crown is more detrimental to man than no teeth. In the lower vertebrates teeth are necessary not only for masticating, but for prehensile purposes. As man rises in evolution the jaws and teeth are of less importance, until at the present time it is questionable whether teeth are necessary. For years Dr. Talbot has believed that men can get along without teeth. Men have lived to be 90 or 100 years of age and have been without teeth for fifty or sixty years. Methods of preparing food to-day do not require mastication, and the jaws show in the evolution of man a shortening up, decay and loss of the teeth due to disuse, and as evolution advances it will be seen that man can get along without teeth. Loss of the teeth due to interstitial gingivitis is a marked illustration of the fact that the teeth are passing. If man lives long enough he will lose his second teeth. In the snake, elephant, etc., teeth are continuous; they come into the mouth, are used a short time, and then pass and a new set comes in. This condition is illustrated in man by the fact that he has two sets of teeth. The first set is lost and a new one takes its place. Interstitial gingivitis is set up and the alveolar processes are absorbed. In regard to bacteria in the mouth, there is no question that modern dentistry is doing more to injure the teeth and the alimentary canal than any one thing. The filthy condition of the mouth under bridges and crowns is certainly not conducive to health. Crowns should never be placed under the gums—should only extend to the line of the gum margin. Immediately the gold margin passes under the margin of the gum interstitial gingivitis is set up and Nature produces absorption, and in a short time the gum margin will recede.

Dr. Frank L. Platt, San Francisco, said that although it is possible for man to live without teeth, he did not think it a good plan for him to do so. He is heartily opposed to eating prepared food that is easily digested; he is opposed to vegetable food and health food. Patients who have taken up this mode of living are all losing their teeth, show evidence of malnutrition, are anemic and miserable specimens of humanity. Bridge work and crown work properly prepared is unquestionably beneficial. Dr. Platt said that he had lost a bicuspid and molar on each side; about ten or twelve years ago he commenced to suffer from indigestion; he consulted physicians and was placed on different kinds of foods; he had a test meal and the contents of the stomach were examined an hour after. That settled it. He took no more prepared foods. He had some bridgework put in one side, which served all purposes so well that he has never taken time to put it in on the other side. He was cured of his indigestion in a few weeks; having learned to grind his food. He believes that if work is well performed it is beneficial. He does not believe teeth should be left standing alone. A single tooth is better braced by a properly made and fitted bridge; it retains it in position. Teeth were given for a definite purpose, they should be maintained as long as possible, and if any are lost, they should be replaced.

Dr. G. V. I. Brown, Milwaukee, said that the question is not, "Can we live without teeth?" but "Can we live as well without teeth?" The assumption is that because there are bridges and crowns they must necessarily be uncleanly. They often are. These people without teeth have just as many bacteria as those with teeth. A man can get along without legs or arms, but nobody is going to advise him to do so. The surgeons can now remove almost any organ, and yet the patient will live, yet who wants to give up any of his organs? There is a good deal more in this subject than the subject of bacteria. Gingivitis is a natural process taking place in an unnatural way. The animal economy gets along better with a good full complement of teeth than it does without them. The mere fact that the chemist has prepared artificial food that can be digested without mastication is no argument against the use of teeth for masticating purposes. They have been obliged to do this to help out the people without teeth or the people who are too lazy to use their teeth. In a certain sense Nature after a time gets rid of the teeth, but why? Not from a physiologic standpoint at all; it is senile decay. With proper care of our teeth, and of the general health, and by eating proper foods, senile decay can be put off. The natural life of man used to be called sixty years. It is not so now. It is getting to be 90, because we have learned to take better care of our bodies. Mr. Gladstone, Premier of England, was once asked "To what do you attribute your good health and long life?" He replied, "To proper mastication of my food." On being asked what he meant, he said, "I have 32 good teeth, and consequently when I masticate my food, I give every morsel of food that goes into my mouth 32 bites." Dr. Brown expressed his opposition to the idea that we can get along without teeth. We can do it, but with the greatest of care in the preparation of food.

As to the examination of soldiers' teeth, at the Presidio in San Francisco there was a large recruiting camp, and for a time nearly all of the operations performed were on recruits. The regulation required as a minimum 4 teeth that would oppose. Many times examination was made by a physician, and all they did was to look in and see if there were 4 teeth opposing each other. No examination was made as to whether decay was present. These teeth would soon decay after these men went on duty, and indigestion follow; probably these men would be sent home without having done a day's work. Dr. Brown wrote an official letter suggesting that the number of teeth should be raised, that each man should have four opposing molars on either side of his mouth, and greater care exercised in examination of these teeth. This was done, and Dr. Brown thinks that the dental corps did one good thing in raising the standard of the teeth required. Many men invalided home are men with very poor teeth and they have dyspepsia, acute gastritis, acute enteritis, colitis, etc., rendering them useless for service.

Dr. M. I. Schamberg, Philadelphia, said that the time may come when people will be able to get along just as well without teeth. Undoubtedly teeth are deteriorating because of lack of proper mastication. It is also true that the use of the third molar tooth is being gradually lost. The jaws are no longer able to accommodate the teeth, and it is possible that in time to come there will be a peculiar formation of head, in which the upper portion will be very broad to accommodate the immense brain, and tapering to a point at the chin, with an aperture sufficiently large to breathe and to take food without mastication. It should not be allowed to go out that dentists believe teeth are useless organs and can be dispensed with.

Dr. A. E. Baldwin, Chicago, considered that there is nothing more productive of a healthy mouth than the use of the teeth. If a man or woman has been so unfortunate as to loose a portion of these organs which Nature supplied for masticating food, bridges and plates—although but substitutes—are good substitutes and to be commended. Some work is detrimental, not only to the conditions in the mouth, but to the durability and efficiency of the natural teeth that remain. Dr. Baldwin considered it possible that a tooth with a crown extending below the margin of the gum might, usually, with certain possible exceptions, produce interstitial gingivitis, but from over twenty years' experience, having seen a great many teeth that had been crowned, he would hardly think Dr. Talbot's position tenable. In some cases it is absolutely necessary to place the crown below the margin of the gum to cover the destroyed portion of the tooth. Crowns are still doing good service after twenty years. Teeth, health, and all vital principles will be better sustained by using foods which demand mastication. Dr. Baldwin urged that patients be instructed as to what they ought to do with the teeth they have.

Dr. M. L. Rhein, New York City, agreed with Dr. Baldwin in regard to a crown that necessarily goes below the gum line. It is all a question of the technic. Dr. Rhein differed decidedly with Dr. Fletcher's contention against the practicability of artificial substitutes. He also opposed the views presented about the future outcome of the race, saying that he could see nothing in the statistical history of the human form that will agree with that view. There is always a diverging point where Nature steps in and saves the day, generally by cross breeding of the races.

Dr. V. A. Latham, Chicago, said that teeth are not the only things to be considered. Man demands a number of things by which his existence must be carried on. Teeth are only one adjunct of the whole. So soon as teeth are extracted jaws are changed. There is a change in the cusp, and degeneration and a change in the nervous mechanism. Without natural articulation there is an atrophied condition. Recession of the gum follows atrophy. If the tooth is crowned the mouth should be able to take care of that tooth; foreign bodies are encysted in the heart, why should not the gum encyst and take care of that foreign body without being irritated? Dr. Latham expressed her opposition to artificial food.

IS KERATITIS EVER CAUSED BY RHEUMATISM?*

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Rheumatism is a "symptom complex" rather than a definite disease; an infection, though the germ or germs are not agreed on. It must be separated from the joint diseases due to infected wounds, typhoid fever, acute follicular tonsillitis, gonorrhea, scarlatina, dysentery, pneumonia or septic pyemia in this discussion.

For our purpose, rheumatism may be classed as (1) acute articular and (2) indefinite, the first having well-defined symptoms, the second shading off to phenomena hard to characterize, and yet representing a pathologic entity of defective metabolism in fibrous tissue and insufficient elimination of certain waste products.

Clinical experience shows that eliminative agents influence most favorably both rheumatism and associated keratitis. Typical among these are the salicylates, of which Cushny says, "they increase by 12 per cent. the excretion of sulphur; augment the excretion of uric acid from 30 to 100 per cent., and correspondingly increase the leucocytes in the blood. In acute articular rheumatism they have a specific action comparable to quinin in malarial fever."

In rheumatism the fibrous tissues are chiefly attacked. Whether the cement between the fibers and cells be loosened by infection or an excess of lactic acid in the blood admit substances foreign to them is unknown.

Experiments have shown that ligation of the long ciliary arteries of the venæ vorticosæ produces a parenchymatous keratitis, with changes in the posterior epithelium, but observations on the human subject are lacking to indicate their force. There is no *a priori* reason why the cornea should always escape the fate of tendons, endocardium or joints, so the question is pertinent does it escape?

We know that the superficial corneal planes have close relation with the conjunctiva being nourished by an anastomosis of the conjunctival vessels with the superficial ciliary, and enervated by superficial nerves; the middle planes have similar relations with the sclerotic, and the inner with the uveal tract.

As rheumatism may first appear in one valve of the heart and then in the endocardium, so it may appear primarily in the sclera and secondarily in the cornea or primarily in the cornea and secondarily in the sclera; or simultaneously in sclera, cornea, iris, etc.

Whether we regard rheumatism as a germ, a toxin, or other substance foreign to blood or fibrous tissue, it must reach the cornea through the vessels, transversing the sclera, conjunctiva or uveal tract. Unless immune, these are liable to infection before the substance reaches the cornea. Thus is apparent why we see so few cases of primary rheumatic keratitis and so many secondary or simultaneous, and why rheumatic keratitis has so many and varied forms.

The question before us is one of fact: Has the cornea suffered from rheumatism, directly or indirectly?

Most ophthalmologists declare that they have never recognized such keratitis (70 out of 129). Most of the books and medical journals do not even mention the subject. If we knew the specific germ of rheumatism we might extract it from the diseased cornea and joint of a person suffering from rheumatism and by modern methods prove or disprove their identity. Ignorant of such germ, we must answer our question in terms of clinical diagnosis.

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In *general the varieties of keratitis from constitutional* causes are many, but few if any present so distinct a form as to declare their parentage. The interstitial keratitis of children is generally due to inherited specific disease, but no clinician rests his diagnosis exclusively on the appearance of the cornea; he examines the teeth, the family history, etc. In like manner a case of rheumatic keratitis is established only when syphilis, tuberculosis, struma,local injury or infection be excluded; when it is shown that the patient suffers from rheumatism and possibly that he has had one or more previous attacks associated with keratitis, when the keratitis is non-suppurative, when the pain and photophobia are disproportioned to the corneal lesion, and when the case responds favorably to anti-rheumatic treatment after other treatment has failed.[1] A family history of rheumatism strengthens the diagnosis.

As in other constitutional diseases, there are all degrees of intensity—some so clear that a fool need not err, others so obscure as to puzzle an expert. Hence it is possible that in some cases of keratitis a mild form of rheumatism may be overlooked. This is the more likely because the ophthalmologist rarely sees a case of acute articular rheumatism, and because if a patient with keratitis consults him after convalescence from rheumatism, he pays little attention to the constitutional condition, regarding it outside his sphere. Besides, as the acute forms of disease occasion so much suffering, the patient and the physician easily overlook a slight attack of keratitis—the more so as such attacks are in the deep layers of the cornea.

The following are brief abstracts of personal observations:

Case 1. *Primary keratitis profunda in acute articular rheumatism.*

History.—Feb. 20, 1886, Dr. H. W. Longyear asked me to see Mr. G. W. S., for sudden blindness of his right eye. Mr. S. was a real estate dealer, aged 43, tall, slender and of correct habits. Two weeks previously he was attacked with acute articular rheumatism, involving all the larger limb joints. About a week later he noticed his right eye growing dim, until at my visit he could simply distinguish light from darkness. The pain had not been great nor the circumcorneal injection, only profuse lachrymation.

Examination.—Inspection showed the cornea of whitish gray, most dense at the center and shading to clear cornea ere reaching the limbus; the surface of the cornea was perfectly smooth, and the superficial layers clear, the cloudiness being in the deep layers.

Treatment.—Fearing an iritis, the eye was kept under the influence of atropin and 15 grains of sodium salicylate given *every hour till profuse perspiration,* and then every two hours. The eye was soaked in hot water for ten minutes before every drop of atropin and the bowels kept free.

Result.—In three weeks the cornea began to clear and in about four months was entirely so. The secondary iridocyclitis left some adhesions. Sixteen years later, with proper correction of refraction, he could see 20/30 and Jaeger No. 1. There has been no return of the disease.

Case 2.—*Primary keratitis interstitialis with necrosis of cornea, in acute articular rheumatism.*

History.—July 29, 1896, Dr. R. A. Jamieson asked me to see Mr. J. D., who had become blind during an attack of acute rheumatism. He was an old soldier, aged 68, of fairly good habits, but illy nourished owing to poverty and successive attacks of acute articular rheumatism. He had suffered great exposure during migrations of his regiment and *many attacks* of acute rheumatism, each accompanied with more or less blindness, though in the intervals he saw well. At *times one* eye was attacked, then the other, and occasionally both. His friends and attending physicians had told him that his eye passed from fogginess to a whitish tint, and then with convalescence gradually returned to a normal look. Generally the pain and redness had not been great or had been overshadowed by the greater suffering from the rehumatism.

Course.—In this last attack, for some unknown reason, the right cornea had necrosed, its substance being a pulpy mass on my first visit, which dropped off, leaving the bare iris, bound by adhesions to the lens. The left cornea was in nearly the same condition, a small portion remaining firm. In both the lost cornea was replaced by cicatricial tissue. During this attack there had been little pain or circumcorneal injection, and only watery discharge.

On recovery, Mr. D. sought to have his pension raised from $24 to $72 per month. In presenting his claim to the Pension Department "rheumatic parenchymatous keratitis" was given as the cause of blindness. The application was refused because the department said no such disease was known. Being pushed, it sent experts from Washington to study the case; it had many eye men in Detroit, Cleveland and elsewhere to study it; it followed up his medical history in all the places where he had suffered blind attacks; he was sent before examining boards other than his own. Finally, after an examination extending over three years the pension was granted, and "rheumatic parenchymatous keratitis" has a place in the Pension Office.

Ere making a diagnosis, I had been careful to eliminate syphilis, gonorrhea, tuberculosis and local injury, and to establish the relationship of the recurring attacks of keratitis to the acute articular rheumatism.

Case 3.—*Band-like vascular growth on the cornea in a case of subacute rheumatism.*

History.—July 21, 1904, Dr. Moore of Farmington asked me to see a woman, aged 35, long a sufferer from subacute rheumatism and neurasthenia. Two months previously the left cornea began to cloud in its lower and outer segment.

Examination.—At my visit the cloud was more than one-eighth inch broad and of nearly uniform width from the scleral junction to above the middle of the cornea. The vision was greatly limited, but the pain was considerable, there was slight irritation of the iris and circumcorneal injection. The entire opacity was distinctly raised above the surface of the cornea.

Treatment.—I asked permission to dissect the growth with a knife, but was refused. The treatment was antiseptics, hot water and yellow oxid of mercury applied by massage, and antirheumatics.

Result.—Five months later Dr. Moore reported that the opacity had disappeared, leaving a slight film discernible only on close inspection with oblique illumination.

Case 4.—*Primary keratitis, interstitial, discrete, with subacute rheumatism.*

History.—March 20, 1890, Mrs. W. C. S., aged 28, applied for relief from an irregular interstitial keratitis, plus a small abrasion near the sclerocorneal junction on the inner side of the right cornea. There was moderate conjunctival injection adjacent thereto, much pain and photophobia, all of which had appeared during an attack of subacute rheumatism. Since a child she had suffered from similar attacks of keratitis during recurring attacks of subacute rheumatism, for which she had been treated by the late Dr. G. E. Frothingham of Ann Arbor.

Treatment.—Ordinary tonic and local treatment proving unsatisfactory, antirheumatic was pushed and convalescence rapidly established.

Since then I have observed several similar attacks, more or less severe, all of which readily yielded to antirheumatic management.

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[1] F. Mendel (Munchener Med. Woch.), from an experience of over eight thousand intravenous injections of salicylic acid, says that disappearance of pain proves a doubtful case to be rheumatic, so a diagnosis is cleared up by a single injection.

Case 5.—*Primary marginal keratitis in subacute rheumatism.*

History.—Nov. 20, 1903 Mr. R. McL., a minister, aged 75 applied for relief for a painful eye. For three weeks he had suffered from an attack of subacute rheumatism, and about ten days ago he began to notice an irritation of his left eye, as from a foreign body, a moderate redness of the eyeball, and a whitish spot on the cornea, with abundant discharge of tears. In former rheumatic attacks he had noticed a similar feeling in his eye, which passed away after a time under the use of household remedies; he again resorted to them, but the eye grew worse.

Examination.—There was a shallow crescentic abrasion of the cornea near the upper and inner border, about one-quarter of an inch long and an eighth broad. This was surrounded by a grayish infiltration.

Treatment.—He was treated by hot water, boric acid and dionin, with yellow mercury oxid ointment locally, and large doses of soda salicylate internally. The pain was speedily relieved, and the keratitis rapidly vanished.

Of the first three cases I could find no duplicates in my records; of the last two many duplicates.

In three cases there was a clear history of recurring attacks of keratitis with rheumatism during a period of many years; the keratitis appeared during the rheumatic attack and faded as it declined; all were benefited by anti-rheumatic treatment. All were classed as rheumatic keratitis for the following reasons:

1. They started in the cornea during an attack of rheumatism.
2. Some recurred many times.
3. All other constitutional causes were eliminated.
4. All were non-suppurative.
5. Three were attended with pain and photophobia disproportionate to the corneal lesion.
6. Antirheumatic treatment alone favorably promoted a rapid recovery of either keratitis or rheumatism. In all these five cases the keratitis antedated other involvement of the eye; in two the rheumatism was acute articular; in the others subacute; iritis occurred only in the two profunda cases.

In many people suffering from "indefinite" rheumatism I have observed "Descemetitis associated with iritis;" "interstitial keratitis with scleritis or episcleritis or cyclitis," and have thought rheumatism the cause of all eye lesions. All were most benefited by antirheumatic treatment.

To secure a larger number of clinical observations on the point at issue, the aid of colleagues in every portion of the United States was enlisted by the following queries:

1. Have you seen cases of corneal disease caused by rheumatism?
2. If so, how many? What part of the cornea was attacked?
3. Did the corneitis have any distinctive features?
4. Did any case have more than one attack? If so, how many?
5. Complications observed. If any, what were they?
6. Were the cases male, female, black or white? Their ages, and occupation, if any.
7. What treatment did you find most helpful, and what were the ultimate results?

More or less full answers were received from one hundred and twenty-seven. Sixty-seven replied that they had never seen cases of corneal disease which they could ascribe to rheumatism. Several had seen keratitis which they ascribed to gout. Sixty replied that they had seen one or more cases of keratitis which they believed due to rheumatism. The full text of positive answers accompanies this paper.

The cases of keratitis are divided into three classes, according to the starting point of the lesion. As three reported under two classes, a discrepancy of figures will be noted.

Of primary keratitis in acute articular rheumatism, six observers report one or more cases each.

Of primary keratitis in indefinite rheumatism, twenty-nine observers report one or more cases.

Of secondary keratitis in indefinite rheumatism, twenty-eight had seen one or more cases.

It may be questioned whether the secondary cases should be classed as rheumatic keratitis because either the sclerotic or the uveal tract was first attacked, but it is quite as fair as to call scleritis following a keratitis rheumatic. Without rheumatism there would have been no keratitis in either case, so far as known, the same agencies produced the keratitis, so that the relative time when they attack the cornea or sclerotic does not alter their cause, more than in other parts of the body.

PARTS OF THE CORNEA INVOLVED IN RHEUMATISM.

The outer layers of the cornea are reported prim[illegible] involved by nine observers, the inn[illegible], the substantia propria by forty-five. It is quite impossible to determine the actual number of cases included in these reports because some used the term "many cases," others "several cases," or a "few cases," or a "number of cases." If we counted three in each of these indefinite reports, the total number of cases of keratitis caused by rheumatism would exceed one hundred and fifty. The actual number stated was sixty-three. Since the reports were made mostly from memory, the actual number found in case books would be far larger.

In cases of keratitis secondary to scleritis or uveitis the middle or inner layers were always involved and occasionally the outer.

Thus we have the positive testimony of sixty expert observers supporting the proposition that "rheumatism has caused keratitis in most of its non-suppurative varieties"—though all agree that it is a rare complication.

These observers report rheumatic keratitis, giving the following names:

OF THE OUTER LAYERS.

Superficial erosion	1
Dendriform keratitis	1
Superficial keratitis	1
Marginal keratitis	5
Calcium deposit in cornea	4
Phlyctenular keratitis in aged	1
	13

OF SUBSTANTIA PROPRIA.

Steamy cornea	2
Interstitial keratitis	8
Diffuse interstitial keratitis	2
Punctate interstitial keratitis	2
Band-like deep seated opacity	1
General haziness of cornea	2
Keratitis profunda (*Fuchs*)	2
Keratitis profunda (Spicer)	1
Discrete keratitis	1
Fine sandy cornea	1
Kerato-scleritis	15
Parenchymatous keratitis	6
Deep central keratitis	2
Keratitis (indefinite)	1
	46

OF INNER LAYERS.

Descemetitis	7
	7

TEXT-BOOKS ON RHEUMATIC KERATITIS.

Nearly all text-books and monographs on eye diseases, old and new, fail to mention rheumatic disease of the cornea. In only eight was I able to find the subject mentioned, *viz.*: Norris and Oliver's "System of Ophthalmology"; Darier's "Ophthalmic Therapeutics";

Posey and Wright's "Diseases of Eye, Ear, Nose and Throat"; Fuchs' "Ophthalmology," de Schweinitz's "Text-Book on Ophthalmology," and the works of Mackenzie and Wharton Jones on the eye.

Neuel and Fenton (Norris and Oliver's "System of Ophthalmology") say (p. 231): "Rheumatism, gout, influenza impaludium, uterine affections and contusions of the cornea are among the rare causes of parenchymatous keratitis" (p. 235). "Different forms of deep interstitial keratitis occur after a chill or attack of acute articular rheumatism" (p. 236). "Descemetitis is caused by syphilis, rheumatism and gonorrhea." Thus rheumatism (indefinite) is said to cause parenchymatous keratitis or Descemetitis, and acute articular rheumatism causes different forms of deep interstitial keratitis.

Darier (p. 153) describes two cases termed "rheumatic parenchymatous keratitis." On page 164 it is stated that "there are forms of scleritis, of sclerokeratitis, of keratitis and marginal ulcers of the cornea resulting from the rheumatic diathesis."

Mackenzie (1855, p. 516,) speaks of an "arthritis corneitis characterized by roughness of the cornea, with haze from interstitial deposits, a bluish-white ring close to the corneal edge and sometimes a slight iritis."

Wharton Jones (1855, p. 126) says: "Rheumatic parenchymatous keratitis occurs in middle life accompanied by rheumatic characters in rheumatic subjects, pain over the brows and temples, cornea dim and rough on its surface; circumcorneal injection most intense at corneal margin; treatment eliminative and antiseptic."

Posey and Wright (p. 313) say: "Rheumatism and gout are causes of parenchymatous keratitis in perhaps a very few cases."

Fuchs (p. 182) describes keratitis profunda thus: "A gray opacity develops in the center of the cornea, in its middle and deep layers and over which the cornea is gray and punctate but not depressed. After several weeks it gradually abates without ulceration. Vessels are few, if any. In rheumatism the pain is violent and the photophobia great. The iris is mildly hyperemic. Lasts from one to two months. Light cases leave clear cornea; severe ones a permanent, diffuse opacity of the cornea. When this disease occurs with intermittent fever or contusions, it is free from pain and is more protracted."

De Schweinitz (p. 315) describes the rheumatic keratitis of Fuchs, confirming the views stated by personal observations.

Thus the authors in these seven text-books teach the causative relation of rheumatism, to the following forms of keratitis, viz: "Parenchymatous keratitis," "checkered interstitial keratitis," "Spicer's keratitis profunda," "interstitial keratitis with roughened external corneal layers," "keratitis punctata," "kerato-iritis," "Descemetitis."

MEDICAL JOURNALS ON RHEUMATIC KERATITIS.

A careful search of the medical journals within reach revealed only seven references to keratitis.

Asmus[2] regards as "characteristically rheumatic the cases of corneal disease, near the limbus, causing a porcelain-white color, lying first in the parenchyma with a covering of stippled epithelium. Later a deep defect is found. The sclera is but slightly involved. The affection yields readily to salicylate of soda.

R. Kalish[3] says that "he has often seen striated, more or less checkered keratitis disappear, after failure of usual remedies, by use of antirheumatic remedies and restricted diet."

F. W. H. Spicer[4] says he has found "a new variety of interstitial keratitis. Of fifty-four cases personally studied, free from any trace of syphilis, three-fourths were associated with alcoholic excess, gout, rheumatism and intestinal sepsis. The average duration of the cases was three months. The condition was a vascular ingrowth with a progressive corneal opacity; in the rest, a conical opacity advancing from periphery to center. The opacity was striated, the lines being slightly uneven, sometimes crossing, and becoming obscured by the advance of the disease. The opacity was either uniform or formed by the union of a number of maculæ and had soft, smooth edges, gray colored. Surface of the cornea was roughened like orange skin—the essential pathologic change being edema of the cornea. Iritis was observed in fourteen cases—no fundus change. He thinks disturbance in the blood supply is the occasion of the disease."

H. Greef,[5] says: "We must regard interstitial keratitis as some particular anomaly of general metabolism, which may be induced by many different morbid conditions, as syphilis, tuberculosis or rheumatism." He reports cases of elderly people in whom interstitial keratitis developed in connection with rheumatism. "Leber, Parinaud, Knies, and v. Hippel describe cases in which they placed rheumatism and interstitial keratitis as cause and effect."

C. Ortale[6] reports the case of a healthy man aged 30 who suffered a kerato-conjunctivitis, with each relapse of an attack of acute rheumatism, which disappeared with the joint symptoms.

Howard F. Hansell[7] reports the following case, which he terms rheumatic keratitis. "A man aged 36, after several days of suffering with dimness of vision, intense photophobia, and excessive lachrymation, exhibited a cornea dotted behind Bowman's membrane with twenty-four small gray discrete spots, scattered throughout its area. Otherwise the cornea was clear, the iris unaffected but the anterior chamber was deeper than normal and the tension plus 1. Eserin relieved the symptoms, the cornea cleared in a few days, to be followed by an acute inflammation of the sclera."

Jonathan Hutchinson[8] reports "a slow, painless, unsymmetrical keratitis punctata in a woman aged 49, subject to rheumatism since childhood, with a hereditary history of rheumatism, but no evidence of syphilis; also a case of kerato-iritis in a man aged 40 with rheumatic antecedents, coming on during a rheumatic attack."

Thus contributors to these medical journals give unquestioned evidence of a belief in rheumatism as a cause of various forms of disease in the substantia propria, as "parenchymatous keratitis," "checkered interstitial keratitis," "Spicer's keratitis profunda," "interstitial keratitis," "keratitis punctata," "kerato-iritis," and an "uncomplicated Descemetitis."

Finally in favor of a rheumatic keratitis we have (1) cases presented in abstract of five different varieties; (2) one or more cases covering about all varieties of keratitis from each of sixty observers—all expert ophthalmologists; (3) authors in seven different standard text-books on ophthalmology; (4) and seven contributors to medical journals.

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[2] Klin. Monat. f. Augen., September, 1903.

[3] Med. News, April 23, 1904.

[4] Lond. Lancet, August 20, 1904, p. 543.

[5] Oph. Review, Vol. XVI, p. 182.

[6] Abstract, Jour. A. M. A., Nov. 14, 1903, p. 1240.

[7] Oph. Record. Vol. XII, p. 523.

[8] Oph. Hosp. Reports, Vol. VII.

While these data seem to establish the existence of a rheumatic keratitis, they also emphasize its rarity. This is as might be expected from the peculiar anatomic structure of the cornea and its relations to adjacent tissues. Besides, any rheumatic affection of the eye is rare. Thos. McCrae[9] reports two hundred and seventy cases of acute articular rheumatism treated at Johns Hopkins Hospital without finding any specific germ, any corneal disease and but one eye affected with iritis. If it be rare that an iritis or scleritis can be traced to rheumatism, much more should we expect to find keratitis rare.

No especial form of keratitis can be called rheumatic, as under changing conditions, in different persons, with varied intensity of the disease, it may assume any form. In general the substantia propria is most frequently affected, as is shown by clinical reports.

There is ground to hope that a keener study by all ophthalmologists may reveal a rheumatic origin for some cases of keratitis now classed as "unknown," and so supply the key for more successful treatment.

APPENDIX: OBSERVATIONS OF LIVING OPHTHALMOLOGISTS ON THE EXISTENCE OF RHEUMATIC KERATITIS.

PRIMARY KERATITIS IN ACUTE RHEUMATISM.

G. F. Suker, Chicago: Yes, one case; middle aged man in whom each cornea would become hazy, with apparent loss of luster, whenever he had an attack of so-called inflammatory rheumatism. His vision was very hazy; at the same time the conjunctivæ were injected, photophobia, lachrymation marked. This haziness was limited to the superficial layers of the cornea, and when he was free from rheumatism, vision was normal. He had two such attacks within about three years. The salicin internally and sodium salicyl (gr. x to oz. i) locally with heat seemed to do the most good. The routine local and constitutional treatment was also carried out. The cornea looked not unlike the steamy "glaucoma cornea": the tension was always normal; iris reaction normal; a slight conjunctival discharge accompanied this. This eye condition lasted about two weeks—the climax was reached in about four days.

F. Carrow, Detroit: Yes; a number. The cases gradually involved the entire corneal structure. The features presented were those of rather mild interstitial keratitis, an infiltration of the corneal structure, without ulceration; number of attacks not known. A tendency to iritis of a mild character, the formation of posterior adhesions without a high inflammatory accompaniment. Asiatics (Chinese) and negroes. Age and occupation not remembered; antirheumatic treatment; large doses of sodium salicylate, salicylic acid, etc. Locally atropin. The results varied, in different amounts of corneal opacity or infiltration. I am sure I have been able to distinguish between ordinary interstitial keratitis, the result so frequently seen in inherited syphilis. I have recently had a case, a young woman, in which all the symptoms of an acute rheumatic affection of the joints accompanied the corneal trouble.

A. W. Calhoun, Atlanta, Ga.: I have seen many cases of mild interstitial keratitis which I have thought were directly due to rheumatism, though behind the rheumatism there may have been some remote cause. In these patients, I observed that each fresh attack of the rheumatism was accompanied by a fresh mild attack of the keratitis, disappearing with the cause. In all of them the keratitis was treated in the usual way, and with anti-rheumatic remedies, and in all, with good results.

A. E. Bulson, Jackson, Mich.: I have not had a case of purely "keratitis rheumatica," but several with rheumatic diathesis and suffering with the disease at the time of the corneal attack. Two cases at present, in brothers, attacked within a month of each other. These cases were both taken with la grippe, or a severe cold, followed in about ten days with acute articular rheumatism, and also about this time a marked blurring of the vision of one eye, extending rapidly to hyperemia, photophobia, and severe pain. I have also at the present time a case of "keratitis punctata," with rheumatic complications. Just how much these cases are rheumatic or specific I do not know: I am treating these cases with a view of clearing up the rheumatic condition by giving anti-rheumatics. The local treatment consists of application of bandage, colored glasses and atropia to maximum dilatation. Hot fomentations of sat. sol. of acid boric are applied at intervals during the twenty-four hours. I continue this during the inflammatory stage, and for clearing opacity I am at present using 5 per cent. of dionin. I find this latter drug to act most [illegible]ose. Every case I have had with rheu[illegible] been interstitial. Some were punctate, [illegible] One case the opacity had little points of depression.

N. M. Black, Milwaukee, Wis.: Have seen one case; central part of cornea attacked; superficial central erosion, staining slightly with fluorescin, surrounded by an area of interstitial deposit with an intervening area of clear cornea. He had two attacks, complicated with iritis (or this corneal condition complicated the iritis) with almost circular synechia posterior. It occurred in a white soldier. Sodium salicylate was given in 20 grain doses each two hours till physiologic limit; hot compresses; atrop. 1 per cent.; dionin powder and subconjunctival injections once or twice per week. Four weeks' treatment did not fully clear the interstitial area, the synechiæ were loosened in upper and outer and lower and inner part of iris; pain relieved immediately after dionin injection and did not return; patient a hard drinker.

F. B. Eaton, San Francisco: Yes, the cornea steamy; with usual infiltrations from episcleritis; have seen many cases of iritis with acute articular rheumatism complicating keratitis—possibly one case of gonorrheal rheumatism. Treatment was salicylate of soda in keratitis with acute articular rheumatism. I can not state that I have ever seen an uncomplicated case of rheumatic disease of the cornea—always the episcleral or scleral tissues were involved.

SECONDARY KERATITIS IN INDEFINITE RHEUMATISM.

B. L. Milliken, Cleveland, O.: I do not recall definitely any cases of inflammation of the cornea, pure and simple, which I am sure was due to rheumatism. I have a case now under my care of iritis with punctate keratitis, marked in character, involving the internal lower third of the cornea, which yielded very promptly to large doses of salicylate of sodium. This was a woman, aged 57, a teacher. Ten years ago she had an attack of herpes zoster on that same side with some choroidal trouble. This attack began apparently as an iritis, with inflammation involving the cornea and not being primarily a keratitis.

S. G. Dabney, Louisville, Ky.: Sclero-keratitis; yes, a good many. Periphery of the cornea extending near center. Characterized by great obstinacy, moderate pain, and tendency to iritis. Some of the cases had several attacks. Both male and female—white—between 20 and 40. Usual antirheumatics with laxatives internally; heat and atropin locally seemed to act well. I do not think any case of corneal disease pure and simple, without involvement of the sclera, caused by rheumatism, has come under my notice.

P. A. Callan, New York City: I can not say that I ever had a case of keratitis pure and simple due to rheumatism, but I not infrequently see cases of scleritis which involve the cornea at the limbus.

S. B. St. John, Hartford, Conn.: I have never seen a case of purely corneal disease caused by rheumatism, but a number of cases in which an episcleritis caused by rheumatism has involved the cornea—sclero-keratitis.

J. H. Thompson, Kansas City, Mo.: Have seen a limited area of keratitis neighboring a patch of rheumatic episcleritis, but never a case of keratitis of rheumatic origin.

Miles Standish, Boston: I have never attributed any corneal conditions to rheumatism except such secondary disturbances as sometimes happen in cases of episcleritis and scleritis due to rheumatic or gouty origin.

David Webster, New York City: The only form of corneal disease that I can recall due to rheumatism, is that which so often complicates episcleritis, or scleritis, and spoken of as sclero-keratitis. I have seen a good many such cases; impossible for me to tell how many. The disease is prone to recur. It generally occurs in adults. I have generally followed the treatment recommended in the text-books, and have found such cases tedious and resulting in permanently impairing vision.

G. C. Harlan, Philadelphia: Marginal keratitis, in connection with conjunctivitis and episcleritis—rheumatic—gouty. Marginal, vascular, small points of ulceration. Four or five attacks. Sometimes accompanied by symptoms of influenza. White, female. Sod. salicyl., etc. Atrop., cocain, and adrenalin locally. Hot stupes. In another case, very frequent attacks recurring for years, sometimes in one eye and at other times in the other. Intense ciliary zone; patches of interstitial corneal opacity and general haziness; once or twice delicate iris synechiæ; violent attack of sciatica. No syphilis, but some gonorrhea in early life. Father had gout. Salicylates, mercury, iodid, pilocarpin, hot stupes and atropia. Recovery with slight opacity; good vision; possibly gout.

T. Y. Sutphen, Newark, N. J.: I only recall the hazy cornea or rheumatic iritis with Descemetitis.

H. F. Hansell, Philadelphia: I do not remember that I have ever seen a case of keratitis—primary—that I could attribute to rheumatism. A bad case of "sclerosing keratitis" involving both eyes and leading to extensive changes in the curve and transparency of the cornea, occurring in a young woman might have been due to rheumatism. Numerous cases, familiar to us all, of rheumatic iritis with deposits in Descemet's membrane and subsequent keratitis, are of course met with.

J. A. White, Richmond, Va.: I have never seen a case of keratitis that I could positively state was due to rheumatic or gouty causes, but I have had keratitis in rheumatic patients that was very intractable to treatment, especially Descemetitis. I have always thought that a rheumatic diathesis had something to do with this trouble, just as it is supposed to have something to do with iritis, because if we can have pathologic changes in the iris due to rheumatism we can also have it in this part of the cornea, because it is a practical continuation of the uveal layer of the eye.

C. W. Hawley, Chicago: I have had several cases, but can not give definite symptoms, etc.

H. Friedenwald, Baltimore: Barring the cases of interstitial keratitis, sclerotizing keratitis, etc., which were in an indefinite manner ascribed to "chronic rheumatic diathesis," I have had no experience which leads me to think that rheumatism (i. e., acute articular rheumatism) has any bearing on corneal disease.

J. H. Buckner, Cincinnati: Only when associated with iritis, more than one attack; iritis has been present in every case, I now remember; female; white. Treatment, sodium salicylate and colchicum; locally atropin, four-grain solution, three or four times daily. I only recall one case in which keratitis existed central over the pupil associated with rheumatic iritis. The case was a sister of charity about 40 years of age. I may have had other cases, but have no record of them.

William Cheatham, Louisville, Ky.: Yes, I am rarely without one or two cases of keratitis with rheumatism on hand. They are parenchymatous, with scleritis or secondary to it. Usually peripheral, it extends as far as the center of cornea. It tends to relapse. It is complicated by involvement of the muscular sheaths or Tenon's capsule, and rheumatism in other parts of the body. Patients were mostly females from 15 to 25 years. Local treatment, atropin and subconjunctival injections and antirheumatics. Treatment at mineral springs has proved helpful.

S. Theobald, Baltimore: The cases of keratitis probably dependent on rheumatic diathesis, that I recall, were of the "profunda type," and usually were not examples of pure keratitis, but rather of "sclero-keratitis," the more intense inflammtaory changes being magnified. I have observed recurrent attacks. There was little tendency to ulceration. The attacks were obstinate, and permanent corneal opacities were not infrequently left. Potass. iodid., iodid of iron and sodium salicylate, with atropin locally, were the remedies which I have found most useful. My impression is that the majority of cases were white women.

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[9] Journ. A. M. A., January 24, 1903.

H. D. Bruns, New Orleans: Only one case of rheumatic episcleritis, with usual corneal opacities opposite the points of scleral infiltration. These areas seem to undergo sclerosis. Permanent nebulæ were left, which greatly impaired vision.

J. L. Thompson, Indianapolis: I have had no case which I could call rheumatic disease of the cornea. I have had many cases in women who have scleritis extending subsequently well over the outer margin of the cornea, who have been troubled with rheumatism, and have sometimes benefited them with iodid and the salicylates; have often had to make an iridectomy, and not infrequently had to enucleate the eyeball.

E. A. Shumway, Philadelphia: I have seen no primary lesion of the cornea which I could attribute to rheumatism. I have seen several cases of so-called sclerotizing keratitis, secondary to episcleritis, in which the etiology pointed to rheumatism.

Charles E. Rider, Rochester, N. Y.: For many years I was in position to know my father's practice and opinion, and I think he would agree with me that with the exception of the corneal lesion of advanced scleritis, no cases of corneal disease from rheumatism are observed hereabouts. Under this head might be considered the corneal congestion, which, I think, I have observed, rarely, namely, after a serous iritis which at times I know is of rheumatic origin; the deposit on Descemet's membrane does not seem to be completely absorbed, or, absorbing leaves the tissue somewhat hazy, suggesting structural changes in the cornea itself, after being the resting place of the exudate from the posterior chamber. I have observed this a long time after the attack.

A. E. Prince, Springfield, Ill.: I have had frequent cases of rheumatic iritis with corneal involvement, but nothing I regard as specific rheumatic keratitis *per se.*

Eugene Smith, Detroit: I have only seen corneal disease of a supposed rheumatic character as secondary to episcleritis or scleritis, and in the form of leucoma of the periphery.

R. J. McKay, Wilmington, Del.: Have seen cases of iritis complicated with corneal disease; used the mixed treatment with satisfactory results.

F. Buller, Montreal, Canada: I look on so-called sclerokeratitis as due to some constitutional condition of rheumatism or strumous diastasis in the same individual in all or nearly all such cases. Further than this, I have not seen and do not know of any form of inflammation involving the cornea which can positively be traced to rheumatism as a constitutional cause.

A. J. Erwin, Mansfield, O.: Have no recollection of any case of corneitis which I thought due to rheumatism, except as a complication of rheumatic iritis or scleritis.

H. V. Würdemann, Milwaukee, Wis.: The part of the cornea attacked is the periphery, usually many attacks, only seen as complication of scleritis or episcleritis. Patients, white, males and females, thirty-five to sixty years old; sodium salicylate, oil wintergreen; diet, mineral waters, general and local massage. Locally atropin, dionin, sodium chlorid by subconjunctival injections, were the most helpful treatment.

PRIMARY KERATITIS IN INDEFINITE RHEUMATISM.

C. A. Veasey, Philadelphia: I have seen a few cases of interstitial keratitis that gave only rheumatic histories, and that recovered under antirheumatic remedies, that I have always believed to have been produced by that poison; but of course I realize that it is impossible to state positively that this is true. Excepting the cases of interstitial keratitis referred to, I can only recall one other corneal affection thought to be due to rheumatism, and that was a case greatly resembling malignant growth, in a middle-aged woman, which, for a time, it was thought would have to be operated on, but which finally cleared under antirheumatic remedies.

C. M. Culver, Albany, N. Y.: Yes; can not give figures; not very many; different parts; apt to be Descemet's membrane; a tree-like form of inflammation; several attacks—can't give figures, several; usual symptoms of rheumatism; males and females; white, thirty to fifty. I recall an engineer, a towman and a lawyer. Baths, pilocarpin, atropin and general treatment of rheumatism.

E. W. Bartlett, Milwaukee, Wis.: I have seen six or more cases of corneal disease occurring with rheumatism. These showed nothing different from other cases in bad health. Male, white. Atropin and a bandage. Treatment for rheumatism was followed chiefly.

H. B. Ellis, Los Angeles, Cal.: I have had but one case which I can place at the present time, that might come under your query. A boy of 17 came to me two years ago with slight haziness of the cornea, which in a few days developed into a marked case of interstitial keratitis. I have known the father and mother for twenty years, and they are both healthy robust people and give absolutely no specific history, and the boy has no marks of inherited trouble, but he did not have, prior to my seeing him, a mild attack of muscular rheumatism and has been bothered some ever since, so that he has gone to mud baths two or three times in the past year. Both corneæ are still very cloudy. Rheumatism was the only thing that I could find as a causative factor in this case.

A. Barkan, San Francisco: Yes, I have seen rheumatism cause keratitis in three cases characterized by a band-like brown, deep-seated opacity along the horizontal meridian. Antirheumatic treatment.

D. E. Welsh, Grand Rapids, Mich.: I have seen a number of cases of keratitis caused by rheumatism; not localized, but general; characterized by a general haziness of the cornea, followed by slight ulcerations of the cornea, several in number; when present, severe pain, photophobia. Several recurring attacks. No complications, except episcleral involvement and association with myalgic pain. Females, white. Large doses of soda salicylate and potass. iodid; iodosyl 3 per cent. ungt. I attribute these to rheumatic diathesis, viz., corneal haziness, pain, photophobia and lachrymation; slight ulceration at different points of the cornea away from sclero corneal junction; pannus would develop, later a severe episcleritis in conjunction with a severe myalgia confined more especially to the superior extremities.

Albert E. Bulson, Jr., Fort Wayne, Ind.: For some time I have recognized a peculiar form of corneal disturbance which has been benefited by antirheumatic treatment. Most of the cases exhibited a neb[illegible] interstitial character. There was no marked [illegible] Rheumatism was suspected from soreness [illegible] muscles on movement of the eyeball. This class of cases were happily treated by large doses of sodium salicylate. In these cases other local or constitutional causes were eliminated. I have also seen corneal disease associated with iritis, scleritis and episcleritis, but am not sure whether this was due to the rheumatism.

M. D. Stevenson, Akron, Ohio: I can recall five cases of corneal disease caused by rheumatism. The superficial part of the cornea was involved and associated with scleritis or episcleritis, chronic in course, occurring in persons with rheumatic history. One case had two attacks and one iritis. Treatment was large doses of sodium salicylate, with large doses of water, and dry heat locally.

W. Mittendorf, New York: Yes, I have seen cases of corneal disease caused by rheumatism; usually the superficial layers were attacked; characteristic features were its being more or less superficial and frequently vascular; several attacks, usually young adults; treatment salicylates internally and usual local medication. N. B.—These cases differ entirely from those known as punctate keratitis, which are attributed to rheumatism.

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E. E. Gibbons, Baltimore: Yes. I have seen eight or ten cases of keratitis caused by rheumatism; attacked the deep layers of the substantia propria. The infiltrate seemed to be punctate and discrete and the subjective symptoms severe for the amount of cornea involved. The opacities usually affect the central portions of the cornea. One had two attacks in each eye. Iritis and scleritis were observed as complications. All but two were white men. The final results were good; all treated by soda salicylate and pilocarpin sweats with usual local treatment.

E. C. Ellett, Memphis, Tenn.; I have seen one case of corneal disease that I and another ophthalmologist supposed to be due to rheumatism as it occurred in a rheumatic boy, aged 20. He had two attacks in less than a year and has had no more. The attack was acute; the cornea showed a fine sandy appearance, without opacity, and the process ran its course in a week, leaving no permanent results. He was treated with atropin, hot compresses and lithia. I am not sure that this was rheumatic, but I have never seen any other corneal disease that I suspected of being of this character.

L. A. W. Alleman, Brooklyn: If I understand you as asking for cases of corneal disease due to true rheumatism I must say "No." But if you have in mind those ill-defined disturbances of nutrition which are often attended by pain and soreness in the joints and muscles, I have seen many cases. They are, as a rule, marginal keratitis, with much pain and photophobia, subject to frequent relapses, not as a rule attended with serious complications, and best controlled by general antirheumatic treatment, regulation of diet, etc. Eserin has given the best results locally.

L. H. Taylor, Wilkesbarre, *Pa.*; At the time I received your letter I was called to see a patient at her home, with a severe suppurating ulcer of the cornea. The patient could not come to my office because she was in bed with rheumatism. She had in the left eye an annular ulcer extending entirely around the edge of the cornea beginning at the sclero-corneal margin. I have seen a number of cases of corneal trouble in people who were at the same time suffering with rheumatism, but I could not say that the rheumatism caused the keratitis. Last summer I attended a physician who had a bad case of sloughing cornea. He also had rheumatism, but I did not regard the latter as the cause of the former.

C. A. Oliver, Philadelphia: Yes, barometric in exacerbation; much adjacent swelling; the periphery of the cornea attacked; young, white, adult, male. Treatment: salicylates and heat.

S. C. Ayers, Cincinnati: Yes, *peripheral portion*, near margin. Generally sluggish, indolent, more than one. Pain and photophobia. White; females, generally 30 to 40. Treatment: scraping floor of ulcer and using 25 per cent. argyrol, atropin when necessary.

W. H. Wilmer, Washington, D. C.: Yes. In a few cases superficial ulcers near margin. Most cases substantia propria. In some cases ring-like involvements of cornea; in most cases a seeming extension of the scleritis into the interstitial portion of the cornea. Several attacks; complications; scleritis, iritis, cyclitis, uveitis. White; black; male; female. Treatment: internally, potass. iodid. and salicylate of lithia, pilocarpin injected into the temple, salicyl. of lithia subconjunctivally injected. Hot applications. Good results. In my experience, rheumatic diseases of the cornea are rare, but do exist.

E. E. Jack, Boston: Yes (?), near limbus; lower half; small roundish, shallow ulceration, infiltrated; two to three attacks. Male, 40 years, physician. Treatment, pilocarpin and cocain only treatment tried. Well each attack in two or three days. The doctor, after two attacks, decided that the attacks came when he had too much uric acid and always got better with an elimination of this. He had other symptoms of this condition. I put a (?) after the first answer, as I do not know whether you wish to class this as rheumatic.

Frank C. Todd, Minneapolis: Yes, I believe I have seen keratitis caused by rheumatism. I have had cases in which the epithelium has been involved, which, I believe, were of rheumatic origin. Any portion of the cornea may be involved, but I regard as most characteristic that form which occurs in conjunction with and as a portion of uveitis in which the posterior limiting membrane is involved. Such cases are subject to recurrences. Cases involving the substantia propria and endothelium I have considered rheumatic. Both male and female, white. Treatment, large doses of soda salicylate, following Gifford's method.

E. E. Holt, Portland, Me.; Yes, a number. Corneal substance proper attacked. In some instances *not much of any acute* inflammation present. Several attacks, leaving opacities; both male and female. Antirheumatic treatment used, salicylate of soda, mercury, iodids, arsenic, hot baths, massage, electricity.

J. M. Ray, Louisville, Ky.: I have for a number of years classed many of the cases of scleritis with frequent relapses that eventually inv[illegible] the so-called sclero-keratitis as due to [illegible] have seen this condition start primarily [illegible] to the periphery and follow the same cli[illegible] had their origin, primarily, in the sclera. I can find in my records one case of this kind, in which, at the interval of three years, each eye was separately involved. The first ey[illegible]gue. The second eye was improved b[illegible] The latter treatment, along with [illegible], the best treatment of sclero-keratitis. I am sure I have seen several cases of the kind I describe, but can not find their records.

S. D. Risley, Philadelphia: I am at a loss how to answer. While I have many cases of scleritis and episcleritis, apparently due to the rheumatic diathesis, I can not recall a single instance of corneal disease which I ascribed to rheumatism. The only exception to this statement may be the case of a man, at least seventy years of age, from whose cornea, at the site usually occupied by the arcus senilis, I scraped a large deposit of a chalk-like material, which chemically gave the calcium reaction.

Hiram Woods, Baltimore: I think there is a corneal disease caused by rheumatism. The characteristic features are small central area of deep infiltration. In one case *only a small spot* was observed down and out. In the others all the cornea eventually clouded. Only one case had more than one attack. The cases were white, two female, one male, aged 22, 18 and 15. No joint involvement in any case. All had a rheumatic history. Salicylate of soda cor[illegible] have seen two or three cases in childre[illegible] and tuberculosis were definitely exclu[illegible]y condition were family traits. Soda [illegible] of its ability to control the inflammat[illegible] There was benefit from this treatm[illegible]stinate; one was complicated by secon[illegible] iritis-cyclitis; at least the central lesion antedated the other. The entire cornea was involved.

Robert W. Miller, Los Angeles, Cal.: I have observed cases in which the rheumatic and gouty constitutions of patients suffering from [illegible] causative relation and in some instances [illegible]gainst recovery. The forms in which I [illegible] has been the deep central keratitis and [illegible]when the latter occurs in adults or the middle-aged.

91 Lafayette Ave.

DISCUSSION.

Dr. W. H. Snyder, Toledo, Ohio, reported two cases and said that he had never been satisfied of the existence of the condition until he saw these two cases. He thought that these could be safely classified as due to the constitutional effect of rheumatism on the cornea.

Case 1.—T. D., aged 7 years, height 4 feet 1 inch, weight 46 pounds, was seen in consultation with another ophthalmologist because of the stubbornness of a corneal inflammation which had resisted all treatment. He has had eye trouble for one year. Eyes very suddenly get very red and inflamed. Pain through the day very much. First one is inflamed and then the other. Three weeks ago the left eye got very red and inflamed. *Vision, right, 20/40; left, light perception.* The conjunctiva of the right eye is very red and inflamed on the whole nasal side of the globe. The cornea is normal at present and there is no pain. On the left side the whole eye is very red, swollen and painful. On the lower, outer half of the cornea is a large disc of opacity covering the pupil, which seems opaque through all the layers of the cornea. Photophobia is moderate. His physical condition is anemic, poor; eats meat only; subject to diarrhea. Had inflammatory rheumatism two years ago. Pulse sitting is 90; standing, 110; *after moderate exercise*, 120. Heart sounds show mitral insufficiency. Anti-rheumatic remedies added to his old treatment, with attention to diet brought about a quick and permanent recovery. His physician had been unable to reduce *pain* or redness at all *until* the latter treatment was added.

Case 2.—C. S., aged 17, very small for his age and thin. Three weeks before his left eye had suddenly become red and inflamed, which attacks he had had many times in the last two years. 'No treatment had been of any service.' Vision: Right, 20/20; left, poor light perception. All of the cornea of his left eye was hazy and through all the layers a disc of marked opacity in the center of the cornea. Outside of this the cornea was covered with white dots looking like pinpricks in gelatin. The whole cornea became steamy first; in twenty-four hours this condition came on. The disc seems like chalk embedded in the cornea. He had been subject to inflammatory rheumatism since a child and heart was affected (mitral murmurs). No treatment had been of avail. From his prescriptions one of atropin was chosen and anti-rheumatic treatment added and in four days the redness had all left the eye. He returned to work at once, being very poor, and has had two or three attacks since, all controlled, however, by the same treatment.

Dr. Leartus Connor said that as far back as the time of Wharton Jones the influence of rheumatism was much more prominent than at the present time and their observations were no doubt as good as those of the present. Dr. Connor said that he had overlooked many of these cases in days gone by and he thought others might have done the same. Dr. Bull of New York, reports a number of cases that he believed due to rheumatism, while Dr. Knapp, of the same city, had never seen any, showing, perhaps, that one man's mind was on the subject and the other's was not. Such brilliant results come from operations and local treatment that the cause of some of these conditions is apt to be overlooked.

BLASTING EYE INJURIES.*

JOHN A. DONOVAN, M.D.

BUTTE, MONT.

"Frenzied Finance," pro and con, of late has so filled the air that to many the question arises: Does mining really exist? With all her disadvantages, Butte still demonstrates mining as a reality. With her annual production of 250,000,000 pounds of copper, not to mention her silver and gold, her many miles of underground tunnels extending nearly half a mile below the surface, and her thousands of miners using tons of powder daily, Butte offers for our study a subject worthy of consideration.

Eissler[1] says:

> In no department of human industry has more rapid progress been made of late years than in explosives. The ablest chemists and the best engineers have found in the study of

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Handbook on Modern Explosives.

pendent on rheumatic diathesis, that I recall, were of the "profunda type," and usually were not examples of pure keratitis, but rather of "sclero-keratitis," the more intense inflammtaory changes being magnified. I have observed recurrent attacks. There was little tendency to ulceration. The attacks were obstinate, and permanent corneal opacities were not infrequently left. Potass. iodid., iodid of iron and sodium salicylate, with atropin locally, were the remedies which I have found most useful. My impression is that the majority of cases were white women.

H. D. Bruns, New Orleans: Only one case of rheumatic episcleritis, with usual corneal opacities opposite the points of scleral infiltration. These areas seem to undergo sclerosis. Permanent nebulæ were left, which greatly impaired vision.

J. L. Thompson, Indianapolis: I have had no case which I could call rheumatic disease of the cornea. I have had many cases in women who have scleritis extending subsequently well over the outer margin of the cornea, who have been troubled with rheumatism, and have sometimes benefited them with iodid and the salicylates: have often had to make an iridectomy, and not infrequently had to enucleate the eyeball.

E. A. Shumway, [illegible] en no primary lesion of the cornea which [illegible] rheumatism. I have seen several cases [illegible] keratitis, secondary to episcleritis, in which the etiology pointed to rheumatism.

Charles E. Rider, Rochester, N. Y.: For many years I was in position to know my father's practice and opinion, and I think he would agree with me that with the exception of the corneal lesion of advanced scleritis, no cases of corneal disease from rheumatism are observed hereabouts. Under this head might be considered the corneal congestion, which, I think, I have observed, rarely, *namely,* after a serous iritis which at times I know is of rheumatic origin; the deposit on Descemet's membrane does not seem to be completely absorbed, or, absorbing leaves the tissue somewhat hazy, suggesting structural changes in the cornea itself, after being the resting place of the exudate from the posterior chamber. I have observed this a long time after the attack.

A. E. Prince, Springfield, Ill.: I have had frequent cases of rheumatic iritis with corneal involvement, but nothing I regard as specific rheumatic keratitis *per se.*

Eugene Smith, Detroit: I have only seen corneal disease of a supposed rheumatic character as secondary to episcleritis or scleritis, and in the form of leucoma of the periphery.

R. J. McKay, Wilmington, Del.: Have seen cases of iritis complicated with corneal disease; used the mixed treatment with satisfactory results.

F. Buller, Montreal, Canada: I look on so-called sclerokeratitis as due to some constitutional condition of rheumatism or strumous diastasis in the same individual in all or nearly all such cases. Further than this, I have not seen and do not know of any form of inflammation involving the cornea which can positively be traced to rheumatism as a constitutional cause.

A. J. Erwin, Mansfield, O.: Have no recollection of any case of corneitis which I thought due to rheumatism, except as a complication of rheumatic iritis or scleritis.

H. V. Würdemann, Milwaukee, Wis.: The part of the cornea attacked is the periphery, usually many attacks, only seen as complication of scleritis or episcleritis. Patients, white, males and females, thirty-five to sixty years old; sodium salicylate, oil wintergreen; diet, mineral waters, general and local massage. Locally atropin, dionin, sodium chlorid by subconjunctival injections, were the most helpful treatment.

PRIMARY KERATITIS IN INDEFINITE RHEUMATISM.

C. A. Veasey, Philadelphia: I have seen a few cases of interstitial keratitis that gave only rheumatic histories, and that recovered under antirheumatic remedies, that I have always be*lieved to have been produced by that poison;* but of course I realize that it is impossible to state positively that this is true. Excepting the cases of interstitial keratitis referred to, I can only recall one other corneal affection thought to be due to rheumatism, and that was a case greatly resembling malignant growth, in a middle-aged woman, which, for a time, it was thought would have to be operated on, but which finally cleared under antirheumatic remedies.

C. M. Culver, Albany, N. Y.: Yes; can not give figures; not very many; different parts; apt to be Descemet's membrane; a tree-like form of inflammation; several attacks—can't give figures, several; usual symptoms of rheumatism; males and females; white, thirty to fifty. I recall an engineer, a towman and a lawyer. Baths, pilocarpin, atropin and general treatment of rheumatism.

E. W. Bartlett, Milwaukee, Wis.: I have seen six or more cases of corneal disease occurring with rheumatism. These showed nothing different from other cases in bad health. Male, white. Atropin and a bandage. Treatment for rheumatism was followed chiefly.

H. B. Ellis, Los Angeles, Cal.: I have had but one case which I can place at the present time, that might come under your query. A boy of 17 came to me two years ago with slight haziness of the cornea, which in a few days developed into a marked case of interstitial keratitis. I have known the father and mother for twenty years, and they are both healthy robust people and give absolutely no specific history, and the boy has no marks of inherited trouble, but he did not have, prior to my seeing him, a mild attack of muscular rheumatism and has been bothered some ever since, so that he has gone to mud baths two or three times in the past year. Both corneæ are still very cloudy. Rheumatism was the only thing that I could find as a causative factor in this case.

A. Barkan, San Francisco: Yes, I have seen rheumatism cause keratitis in three cases characterized by a band-like brown, deep-seated opacity along the horizontal meridian. Antirheumatic treatment.

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Frank C. Todd, Minneapolis: Yes, I believe I have seen keratitis caused by rheumatism. I have had cases in which the epithelium has been involved, which, I believe, were of rheumatic origin. Any portion of the cornea may be involved, but I regard as most characteristic that form which occurs in conjunction with and as a portion of uveitis in which the posterior limiting membrane is involved. Such cases are subject to recurrences. Cases involving the substantia propria and endothelium I have considered rheumatic. Both male and female, white. Treatment, large doses of soda salicylate, following Gifford's method.

E. E. Holt, Portland, Me.; Yes, a number. Corneal substance proper attacked. In some instances not much of any acute inflammation present. Several attacks, leaving opacities; both male and female. Antirheumatic treatment used, salicylate of soda, mercury, iodids, arsenic, hot baths, massage, electricity.

J. M. Ray, Louisville, Ky.: I have for a number of years classed many of the cases of scleritis with frequent relapses that eventually invade the cornea, producing the so-called sclero-keratitis as due to rheumatism. I think I have seen this condition start primarily in the clear cornea close to the periphery and follow the same clinical course as those that had their origin, primarily, in the sclera. I can find in my records one case of this kind, in which, at the interval of three years, each eye was separately involved. The first eye was iridectomized by a colleague. The second eye was [illegible] injections. The latter treatment, al[illegible]s, I believe, the best treatment of [illegible] I have seen several cases of the kind [illegible] their records.

S. D. [illegible] m at a loss how to answer. While I have many cases of scleritis and episcleritis, apparently due to the rheumatic diathesis, I can not recall a single instance of corneal disease which I ascribed to rheumatism. The only exception to this statement may be the case of a man, at least seventy years of age, from whose cornea, at the site usually occupied by the arcus senilis, I scraped a large deposit of a chalk-like material, which chemically gave the calcium reaction.

Hiram Woods, Baltimore: I think there is a corneal disease caused by rheumatism. The characteristic features are small central area of deep infiltration. In one case only a small spot was observed down and out. In the others all the cornea eventually clouded. Only one case had more than one attack. The cases were white, two female, one male, aged 22, 18 and 15. No joint involvement in any case. All had a rheumatic history. Salicylate of soda controlled the inflammation. I have seen two or three cases in children of deep keratitis (syphilis and tuberculosis were definitely excluded). Rheumatic and gouty condition were family traits. Soda salicylate was given because of its ability to control the inflammation and the family history. There was benefit from this treatment, but the cases were obstinate; one was complicated by secondary iritis-cyclitis; at least the central lesion antedated the other. The entire cornea was involved.

Robert W. Miller, Los Angeles, Cal.: I have observed cases in which the rheumatic and gouty constitutions of patients suffering from keratitis, occupying a causative relation and in some instances militating strongly against recovery. The forms in which I have noted this relation has been the deep central keratitis and phlyctenular keratitis when the latter occurs in adults or the middle-aged.

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DISCUSSION.

Dr. W. H. Snyder, Toledo, Ohio, reported two cases and said that he had never been satisfied of the existence of the condition until he saw these two cases. He thought that these could be safely classified as due to the constitutional effect of rheumatism on the cornea.

Case 1.—T. D., aged 7 years, height 4 feet 1 inch, weight 46 pounds, was seen in consultation with another ophthalmologist because of the stubbornness of a corneal inflammation which had resisted all treatment. He has had eye trouble for one year. Eyes very suddenly get very red and inflamed. Pain through the day very much. First one is inflamed and then the other. Three weeks ago the left eye got very red and inflamed. Vision, right, 20/40; left, light perception. The conjunctiva of the right eye is very red and inflamed on the whole nasal side of the globe. The cornea is normal at present and there is no pain. On the left side the whole eye is very red, swollen and painful. On the lower, outer half of the cornea is a large disc of opacity covering the pupil, which seems opaque through all the layers of the cornea. Photophobia is moderate. His physical condition is anemic, poor; eats meat only; subject to diarrhea. Had inflammatory rheumatism two years ago. Pulse sitting is 90; standing, 110; after moderate exercise, 120. Heart sounds show mitral insufficiency. Anti-rheumatic remedies added to his old treatment, with attention to diet brought about a quick and permanent recovery. His physician had been unable to reduce pain or redness at all until the latter treatment was added.

Case 2.—C. S., aged 17, very small for his age and thin. Three weeks before his left eye had suddenly become red and inflamed, which attacks he had had many times in the last two years. No treatment had been of any service. Vision: Right, 20/20; left, poor light perception. All of the cornea of his left eye was hazy and through all the layers a disc of marked opacity in the center of the cornea. Outside of this the cornea was covered with white dots looking like pinpricks in gelatin. The whole cornea became steamy first; in twenty-four hours this condition came on. The disc seems like chalk embedded in the cornea. He had been subject to inflammatory rheumatism since a child and heart was affected (mitral murmurs). No treatment had been of avail. From his prescriptions one of atropin was chosen and anti-rheumatic treatment added and in four days the redness had all left the eye. He returned to work at once, being very poor, and has had two or three attacks since, all controlled, however, by the same treatment.

Dr. Leartus Connor said that as far back as the time of Wharton Jones the influence of rheumatism was much more prominent than at the present time and their observations were no doubt as good as those of the present. Dr. Connor said that he had overlooked many of these cases in days gone by and he thought others might have done the same. Dr. Bull of New York, reports a number of cases that he believed due to rheumatism, while Dr. Knapp, of the same city, had never seen any, showing, perhaps, that one man's mind was on the subject and the other's was not. Such brilliant results come from operations and local treatment that the cause of some of these conditions is apt to be overlooked.

BLASTING EYE INJURIES.*

JOHN A. DONOVAN, M.D.

BUTTE, MONT.

"Frenzied Finance," pro and con, of late has so filled the air that to many the question arises: Does mining really exist? With all her disadvantages, Butte still demonstrates mining as a reality. With her annual production of 250,000,000 pounds of copper, not to mention her silver and gold, her many miles of underground tunnels extending nearly half a mile below the surface, and her thousands of miners using tons of powder daily, Butte offers for our study a subject worthy of consideration.

Eissler[1] says:

> In no department of human industry has more rapid progress been made of late years than in explosives. The ablest chemists and the best engineers have found in the study of

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Handbook on Modern Explosives.

explosives a fruitful field, and the results of their labors are to be seen in the perfected explosives of to-day—explosives which are marvels of chemical perfection; which are so modified and varied in their method of action as to be adapted to all varieties of practical work; and which, with all their enormous power stored up in their particles, are so completely under control that they may be handled freely in any class of work with perfect safety, when in the hands of careful and experienced operators.

Blasting is becoming so common, owing to construction of underground roads, canals, etc., that I will describe briefly how accidents occur. A mine is entered, probably by a perpendicular shaft; from this, say at each 100 feet, runs a tunnel of sufficient size for two men to work comfortably in without stooping. From these various other tunnels and drifts are run. All are extended by drilling usually five shot holes, one near each corner and one in the center. In these holes, giant powder is put, say one and one-half or more sticks, a stick or cartridge being approximately one inch in diameter by eight inches long, weighing about a pound and containing, say, 40 per cent. nitroglycerin mixed in some absorbent, chemical, mechanical, or both. The percentage may vary, according to the nature of the work to be done. The first half stick, more or less, is packed in the bottom with a wooden tamping stick. Then a detonating copper cap, containing a very high explosive and being quite sensitive, is attached to a long fuse and fastened; this is then pushed into the end of the last cartridge and fastened. The cap being very easily exploded, this piece is pushed in with much care. All then is snugly packed and tamped. Each hole is loaded in like manner; each has a long fuse attached, which burns at the rate of about 2 feet a minute. These fuses are lit with a candle. When all are ignited, the longest one first and the rest in like order, the men run away, count the explosions, then return.

In selecting a powder for safety it should respond to the following conditions: Safety against fire and high temperatures; against friction, jars and shocks; against percussion, concussion and tamping; against leakage or liquefaction.

CAUSES OF ACCIDENT.

1. Careless handling of powder; it may drop or catch fire from candle or pipe; it may or may not explode. Thawing powder too near a fire; keeping it too near electric conductor terminals, etc.

2. Carelessly packing it with a jam into the hole.

3. Packing with a metal tamping rod instead of with wood, the iron in contact with the rock causing sparks.

4. Carelessness with the caps, which are highly explosive—cigar ashes, hot candle grease, or a little jar or concussion may explode the box.

5. Fuse cut too short or the short one lit first by mistake or an unusual delay in lighting one after some have been lit.

6. Error in counting blasts and man returning before last has exploded.

7. Missed hole—one in which fuse burned but powder did not explode, and the new men coming on shift unknowingly pick into it, causing an explosion.

8. Faulty or frozen powder—several pieces in a hole and some fail to explode, the pick later sets it off. At the present time, a patient is under my care who lost one eye from this cause. Many miners deny the possibility of such an accident, but it does occur.

9. Caps left where children find and explode them accidentally or otherwise. This is the most frequent cause of children's injuries. It is probably with these cases that the oculist has most to deal.

With all the crimes of corporations, these accidents can seldom be placed at their door, but are, with few exceptions, due to carelessness, which too often is not the direct fault of the victim, but of his fellow-workmen. Be it said to their credit, however, in the handling of tons of powder and among thousands of men, often many weeks may pass without a serious accident from this cause.

This paper refers especially to high explosives, such as nitroglycerin, which have a shattering effect, thus being much more dangerous to the eye than the low explosives, such as gunpowder, which have a rendering effect and are more generally used in coal mining and softer work.

THE IMMEDIATE EFFECTS.

One man may be blown to pieces and the other left living but literally filled with rock; in any event, there has probably been much damage done. He is first treated by the mining surgeon, who in many cases despairs of life. The grosser injuries are dressed and he is, or should be, put to bed till he recovers from the shock. By this time the eyes are so swollen a thorough examination is impossible. Here I will caution those who see these cases months later to remember this description when they criticise the man who first attended for his neglect of the case. Such criticism occurs too frequently and great injustice is done the local surgeon, who probably handled the patient in such circumstances better than his critic could have done. If it were not for legal complications that may arise, when the injury is so extensive as to make saving the eye impossible, enucleations should be done as soon as patients condition permits. Since we all see eyes with good sight where enucleation has been advised, however, it should never be done early, except when no possibility of a doubt exists.

Every piece of rock easily removed should be taken out at once, but, as a rule, when there are many, the smaller pieces not easily distinguished can be removed as the days go by, as each becomes manifest. It is safer to leave them alone than at this time to set up the reaction sure to follow the prolonged operation necessary to remove them all. Early and frequent use of atropin, unless contraindicated, should not be neglected. Because *a complete perforation* exists, a foreign body is not necessarily in the eye; finding no perforation, however, does not always exclude the possibility of its existence.

Case 1.—A boy, aged 10 years, exploded a cap with a stone. I removed several pieces of brass from the cornea and found the sclera completely perforated. A probe entered the vitreous then opaque; in three days, the vitreous was clear; the opthalmoscope showed a black streak in from the wound about 5 mm. long; otherwise no spots. I entered the wound with iris forceps, using the ophthalmoscope, and caught the body. I extracted it and found it a thread of retina driven in. Three years have now passed and the eye is in normal condition. A sharp piece had cut through and fallen out.

If a body is embedded in the iris and is seen early remove it at once; otherwise, while inflammation is severe, you may await a more favorable opportunity. In one case in which confirmation of my suspicion was impossible and one eye had already been enucleated, local suppuration resulted eight weeks after the injury; I then opened the cornea and easily extracted the piece of brass from the iris, cauterized the edge of the wound, and the active symptoms at once subsided. In fact, suppuration around a piece of cap anywhere nearly always subsides immediately on its removal. Pieces under the conjunctiva not producing trouble, which have not been found and removed at once, may safely be left until some local irritation is produced. Yet, there is always a possibility of indirect pressure on the globe if these are large.

CASE 2.—A young man lost one eye by explosion of caps; the other had good vision, which after several months began to fail. A small detachment of retina just behind the iris at the inner side, and vitreous opacities were perceptible. Vision slowly failed. During three months in New York he became blind. On his return, I resumed the use of tonics internally and sedatives locally. He regained some vision. Three years after this injury, a piece of cap presented at the lower punctum and was removed with difficulty, being many times the size I anticipated. A local irritation of the conjunctiva at this point always existed, resembling pterygium somewhat.

There is no doubt that this irritation produced the detachment, yet neither of his surgeons or the three oculists consulted ever suspected its presence during these years.

PROGNOSIS.

The prognosis in every case of blasting is uncertain. A change in nutrition is apparently set up, not becoming manifest for months or years, e. g., in Case 1 the detachment of the retina was not suspected for nearly six months. Vitreous opacities or choroidal atrophy may not be discovered for years. Fortunately, these spots frequently remain stationary. In a boy, 10 years old, from whom I removed a cataract five years after an explosion, the good eye had several atrophic spots in the choroid. Six years have elapsed with no further change.

Cataract is a very frequent late complication. For these patients advice is often only sought provided one eye has been lost. Cataract comes on after a few months or years, becoming complete in time; in my experience, this has been the case in young people. So far, in those in whom I have removed the cataract, the eye was free from other diseases. I know of no one requiring early operation if any hope is offered, as a miner with one eye lost and the other blind from some form of occlusion. These men frequently go from one oculist to another begging for an operation, and, unfortunately, they usually get it. From the very urgent need for such operation, we must advocate the urgent need of patience. We too frequently see eyes hopelessly lost that might have been useful had the operator waited for the subsidence of all inflammation. The danger of radical interference simply to restore vision in an eye not absolutely quiescent has never been over-accentuated, and in these cases can never be.

CONCLUSIONS.

1. With but few exceptions, blasting injuries result from want of care on the part of the patient, his associates or his predecessors at work.

2. In careful hands and with those familiar with the dangers, these accidents should not occur.

3. The eyes should be examined immediately, the larger foreign bodies removed, conditions noted, atropin used, and subsidence of general reaction awaited.

4. When reaction subsides, remove particles as symptoms indicate, provided it is not practical to remove all at once.

5. Foreign bodies inside the eye would better be removed as soon as located.

6. In children, general anesthesia is safer if specks are deeply embedded.

7. Careful ophthalmoscopic examination of each eye should be made early and a favorable prognosis should always be guarded. The shattering effect of high explosives produces deep internal changes.

8. Never operate simply to restore vision till every inflammatory sign has disappeared and all active changes have ceased; better wait even a few years.

9. Be careful in criticising the former attendant (if criticising must be done) till every detail of the history and circumstances have been understood.

10. Do nothing and say nothing in these cases unless willing to substantiate it in the courts. Careless remarks encourage the patient into litigation, and, no matter what the immediate result, experience has shown the ultimate consequences to be disastrous.

SOME EYE INJURIES AND THEIR LESSONS.*

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INDIANAPOLIS.

Eye injuries present such an infinite number of possibilities, so many differences in course, extent, symptoms and complications, that while we may derive some valuable points from experience and may lay down rules and principles applicable to many conditions, still each serious eye injury is largely a rule to itself and offers an interesting field for study. I desire to present, briefly, three groups of three cases each, representing three serious forms of injury worthy of our attention. The first group comprises cases of foreign bodies in the lens; the second, foreign bodies in the iris; the third, wounds in or near the ciliary region.

GROUP 1: FOREIGN BODIES IN THE CRYSTALLINE LENS.

CASE 1.—W. B. consulted me Octotber 13, 1894, with history of injury to right eye by a guncap nine years before.

Examination.—This showed traumatic cataract with piece of cap in the lens. R. V. = Light only. L. V. = 20/20, with no symptoms of disturbance at any time. The inflammation in the right eye had subsided soon after the injury and given no trouble until shortly before he consulted me. There were now ciliary congestion, pain and tenderness. Atropin and hot applications gave relief for a time, He was advised to have the eye removed, if this trouble persisted long in spite of the treatment. Other local eye surgeons gave similar advice, but he decided to see Dr. H. D. Noyes of New York, who had treated the original injury. He reported later that Dr. Noyes attempted to extract the lens with the foreign body, which fell down into the vitreous and had to be "fished out," as he expressed it; that he was in the hospital for two months, hot water being freely used, eyeball saved with no vision, pupil obliterated. Since that time he has had no trouble.

CASE 2.—W. C. had been blind in the left eye for twenty years from foreign body, in the lens, apparently a small piece of iron, the lens being opaque. As this was quiescent I advised against interference. Inflammation arising a year or so later, the eye was removed by one of my colleagues.

CASE 3.—J. R., employe in the Atlas Engine Works, was injured in June, 1902, by a piece of steel from a drift pin entering the right eye and lodging in the lens. Sight was gradually lost in this eye until after a few weeks, perception of light only remained. Inflammation subsided quickly under atropin. The pupil, he says, became white. This condition remained quiescent over two years, but a few months before coming to me, November 22, 1904, he noticed the whiteness disappearing from the pupil and for two weeks the left eye had been watering, showing symptoms of tiring when he tried to read, with very slight pain.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Examination.—It was evident that the lens of the right eye had become absorbed, the pupil being black, the iris tremulous, the fundus seen best with + 12 D. sph., with floating bodies in the vitreous, choroidal inflammation, vision remaining at perception of light only. The pupil was irregular and the iris muddy. A small corneal opacity showed where the steel entered the eye.

Treatment.—Prompt enucleation was advised and accepted two days later. The ball was opened after removal and the steel not found until examination was made of the choroid and the retina stripped off, the ball being apparently in the former. The symptoms of irritation in the left eye immediately subsided.

These cases show that, while a foreign body may remain quiet in the lens for years—in these 9, 20 and 2 years, respectively—no certainty exists, they are still in danger and should be kept under observation. The question arises, Should we follow the plan pursued by Dr. Noyes in Case 1, in trying to remove the lens and to save the ball, even if the metal falls into the vitreous and great reaction attends the efforts to extract it? Did he not run much risk of sympathetic ophthalmia? This procedure is advised by some authorities, resort to the magnet being made if the metal falls into the vitreous. It would seem to be all right in some cases, but, if marked reaction resulted and failed to subside promptly, would it not be safer to enucleate within a short time rather than try for weeks to save a blind eyeball, suffering from violent iridocyclitis? While the result seems to justify the procedure in this instance, would we not *naturally expect trouble when, as in Cases 1 and 2, the* metal has been in the eye a long time, has caused liquefaction in the lens and is already setting up inflammation? The safest course in such conditions would seem to be enucleated, as advised in Case 1 and accepted in Case 2, reserving the attempts to remove the lens and foreign body with preservation of the ball for those cases in which the metal has not been in the eye long enough to set up trouble.

In Case 3, with symptoms of sympathetic irritation present, enucleation was certainly the best procedure, the lens being absorbed, the eye blind from fundus lesions, and an attempt to remove the steel with a magnet being unadvisable.

GROUP 2: FOREIGN BODIES IN THE IRIS.

Case 1.—P. E. H., Lafayette, Ind., was reaming a tire on a locomotive in 1864, when a piece of steel about 2 mm. long penetrated the cornea of his right eye, lodging in the iris midway between the pupil and the outer margin. The irritation subsided in four weeks with no subsequent trouble save one attack of inflammation, twenty-two years later, which lasted a week.

Examination.—When I saw him in June, 1891, there was a well-marked iritis, which yielded to atropin, leeches and hot applications in two weeks with normal vision.

Subsequent History.—A more severe attack arising nine months afterward with symptoms of sympathetic irritation in the other eye, as I had removed to Indianapolis, he went to Dr. Keiper, who extracted the steel with iris forceps, fearing to employ the magnet when he found the metal so firmly embedded. Perfect vision resulted in both eyes.

Case 2.—O. H., employed at the Atlas Engine Works, was sent to me with slight irritation of the right eye.

Examination.—Careful examination revealed a small particle of iron in the iris, a little nearer the pupil than the outer margin.

Treatment.—An attempt was made to remove this with a Hirschberg magnet inserted through a small corneal incision to the outer side, but, this failing, we feared to protract our efforts, this being the only eye the patient had, also I had been compelled to enucleate the other a year previously on account of an infected wound in the ciliary region.

Result.—All reaction soon subsided under rest and atropin (in the eye with the small foreign body), and there has been no trouble since, more than a year having elapsed.

Case 3.—J. B. was referred to me from Winchester in November, 1901, with a piece of steel in the iris of the right eye. My magnet was not in working order.

Treatment.—Enlarging the entrance wound in the corneal margin, I inserted iris forceps and tried to remove the metal, but failed. Dr. T. B. Noble, who was assisting me, suggested that I make another incision at right angles to the first toward the foreign body—a suggestion I saw made by a Pennsylvania surgeon shortly after in the *Pennsylvania Medical Journal.* This being done, we prolapsed the iris containing the steel, worked the metal carefully out of the meshes of the tissue, in which it was firmly entangled, replaced the iris, put on sterile dressings and sent patient to Dr. Chenoweth of Winchester with directions to use a boric acid solution and hot applications, adding atropin as soon as the corneal wound closed. He reported prompt recovery with vision but one line less than the other eye.

The first case of this group is remarkable in showing that the iris could tolerate the steel so long—27 years—with so little disturbance and without damage to sight. Yet, at the last, without prompt action, it might have caused blindness in both eyes. The iris, then, is very tolerant of foreign bodies, but their presence, nevertheless, is a source of danger, and such patients should be under skilled observation.

The conservative course in the second case seems to have been wise on account of the loss of the other eye and the small size and favorable location of the metal.

The unusual procedure in Case 3 would naturally be objected to by the eye surgeon from fear of an ugly corneal scar, but this proved smaller than was anticipated, and the crucial incision facilitated the operation greatly on account of the shape and size of the chip. The reaction was slight. A magnet could not well have been used here; the iron was so firmly entangled in the iris.

GROUP 3: WOUNDS IN OR NEAR THE CILIARY REGION.

Case 1.—Miss. R., a demi-monde of Marion, came to my office September 10, 1902, with right eye badly cut by a piece of glass from the bursting of a beer bottle. The cut extended from near the center of the cornea to the very outer margin, with a large prolapse of the iris.

Treatment.—The patient was put under a general anesthetic and the prolapse was partly excised and partly replaced, the operation being done with careful aseptic precautions.

Result.—Healing took place very rapidly and she left the hospital in a few days with good vision and free from pain.

Case 2.—E. D., employed at Atlas Engine Works, was injured December 10, 1902, by a chip from a hammer, which made a small punctured wound in the left eye, in the sclera not far from the outer corneal margin and quite low down. The steel was pulled out by another employe.

Examination.—When seen by me an hour later, the small scleral opening was visible and the anterior chamber was so full of blood that vision was abolished and the iris could not be seen.

Treatment.—After washing the eye with a weak bichlorid of mercury solution, I applied a sterile dressing, advising cold applications, and giving him the bichlorid (1 to 10000) for home use. The next day he returned, the blood had been all absorbed and the vision was fairly good, but there was a small prolapse of the iris. I urged him to go to the hospital where I could give him proper surgical attention and the wound could be kept clean. He was strongly advised to do this also by Dr. Dorsey, the company's surgeon, but he refused, he was opposed to hospitals and surgery. Driven to a conservative course, I continued the antiseptic wash, changing from cold to hot applications. He came somewhat irregularly every two or three days until January 2, when the wound had healed with the iris adherent, but not projecting —the vision was then fair, the eye free from pain, with very slight redness and tenderness. He then remained away over a week, having been sick, returning January 10, with the eye more inflamed and the vision much reduced. Although I urged him to come back the next day, he did not and when I saw him again there was slight ciliary redness of the other eye. As soon as we could, we got him into the hospital, enucleated the injured eye, by this time practically blind, but, although the other eye had normal vision at the time of the operation, the redness was not the simple congestion sometimes seen in sympathetic irritation, but the commencement of a sympathetic inflammation, a serious iritis and cyclitis, which progressed very slowly to almost complete blindness.

CASE 3.—F. P., a colored lad of 19, in celebrating Washington's birthday (1904) met a friend with a razor, who cut his left eye, through the lids, and the sclera above, and to the outer side of the cornea.

Treatment and Result.—He reached the hospital shortly before midnight, and the interne, Dr. Roy Cook, a pupil of mine, unable to get me by telephone, stitched up the eye himself, putting three stitches in the sclera and two in each of the lids. This was done with ordinary dressing forceps, coarse silk, etc. A remarkable feature was the fact that the cut penetrated the sclera without cutting the choroid or ciliary body, which was deftly pushed back as the sclera was united without prolapse or loss of vitreous. This wound healed rapidly with slight reaction. I saw the patient the next day; I continued the cold applications and antiseptic wash, prescribed by Dr. Cook, changing later to hot applications, and adding atropin when the wound healed. I removed the stitches on the sixth day. When the patient left the hospital, he had good, but not perfect, vision, and the eye was free from pain or other signs of reaction.

The lessons from this group are these: Danger lies more in position than size of wound. In the first and third cases, the injuries were far more extensive than in the second, but in the first the ciliary region was not reached, and in the third the choroid and ciliary body escaped cutting, as it were, by a miracle, while the very small wound in the second was in the worst possible place, and it well illustrates the very great danger of a prolapse, however small, in this region. From the favorable results in other cases in which I have operated, I believe that patient would have had two good eyes today had he gone to the hospital and submitted to an iridectomy when I first urged it. Although the files of the *American Journal of Ophthalmology* contain a paper of mine on the conservative treatment of prolapse of the iris, citing a number of cases in which good results were obtained without surgical interference, I am persuaded that the safest course is to resort to prompt surgery, at least when the prolapse is in or near the ciliary region. In fact it is only in exceptional cases of prolapse and those seen rather late—I am speaking now of traumatic cases—that I would not be inclined to resort to prompt operation under proper aseptic or antiseptic precautions whether near the ciliary region or considerably within the corneal margin. I have never had cause to regret following such a line of procedure. The first case of this group is but an illustration that would stand for many like it. The last one is unique, and I had reason to feel proud of my pupil's promptness and readiness in meeting the emergency.

It is hoped that the fact that a magnet was used in only one of these nine cases, and then without success, will not be understood as argument against, or lack of appreciation of, what we must all agree to be one of the greatest and most beneficent acquisitions to eye surgery, but the cases here cited were purposely chosen outside of that field, in order to illustrate different modes of procedure and differences in the course and results of somewhat similar accidents, with lessons to be adduced therefrom. Of course, it is not claimed that these lessons are altogether new or that so small a number of illustrations prove much. They are presented rather because they are in a field where many points are still debatable and because they seemed to suggest what might serve as the basis for a profitable discussion.

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TRAUMATIC LESIONS OF THE EYE.*

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I do not purpose to burden an organization of this character with an exhaustive narration relative to this subject. I desire rather to present it only in a general way, for no paper of reasonable length can properly treat in detail a subject so varied and manifold.

The clinical pictures presented by traumatic lesions of the eye are practically without number. The diversity of structure and the still greater diversity of inflicting agents makes a complete catalogue of injuries to the eye impossible. Some one, who has taken the great pains to do so, has listed seventy different pathologic conditions of the eye and orbit due to bullet wounds alone.

These ocular traumatisms are becoming more frequent, for modern conditions, with the increase of mechanical appliances, rapid transit, etc., and the more general use of chemicals and gases, make their demands of the eye as well as of other parts of the body. The increase of knowledge among the laity also brings certain cases to us that a few years ago would have sought no relief. Never before has the value of vision been placed so high—never have the demands of perfect vision been so exacting. Therefore any effort directed toward the better handling of these cases is becoming and well worth while.

To list the traumatic agents would be to enumerate practically everything in the animal, vegetable and mineral kingdoms, in either their gaseous, liquid or solid form, sufficiently small to reach the part. The most absurd and impossible things have produced lesions of the eye. Neither age, condition or environment exempt an eye from possible harm. It has been injured even before birth by clumsily applied forceps during delivery.

The import of the injury depends more frequently on its location and extent than on the inflicting agent. Structures are rarely affected singly—two or more parts sharing the traumatism in different degrees and the tissues traversed by the agent are not necessarily the only ones injured. The list of lesions extends from trifling lacerations of the conjunctiva to complete destruction of the globe and orbital contents.

Injuries to the eye are either penetrating or nonpenetrating. Compression, contusion and concussion of the eye may occur without a solution of external continuity but with great damage and destruction to intraocular structures.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

Penetrating wounds may be incised, lacerated or punctured, with or without the retention of the agent in the wound or eyeball.

It is necessary to classify injuries of the eye as recent and old because their treatment and subsequent handling differs very materially. Recent wounds are those which come to us usually within the first few hours or before Nature has thrown out her generous supply of plastic lymph in an effort to seal and to protect the injured parts. Old wounds are those that "show up" any time after the above has occurred—varying from twenty-four hours to as many years.

The time that we see these injuries depends largely on the location and relation of the patient to the oculist. In the railroads, machine shops, etc., located in large cities, the majority of them are recent. In our part of the country, where distances are great and transportation facilities limited, the injuries of patients coming from Arizona and Mexico with all possible haste must necessarily be classed as old, for in these cases adhesions have formed, exudate is abundant and much irremediable damage has usually occurred.

Next to the actual destruction of tissue, and frequently more grave, the thing to be most deplored is infection. In non-penetrating wounds endogenous infection occasionally takes place. It is a rare complication, and fortunately so. Penetrating wounds, while intrinsically serious, are rendered dangerous by the possibility of coincident infection. The interior of the eye offers an ideal medium for the growth and development of bacteria, and this unusual susceptibility makes infection of these lesions a common incident. Septic agents may carry the infection into the wound at the time of injury or it may become infected secondarily. I can not help but believe, after considerable observation, that infection of any wound depends more on the lack of resistance offered by the tissues than the kind and virulence of the organism implanted on them. In all injuries the resistance of the affected part is greatly diminished, and for that reason there is a greater liability to infection in accidental traumatisms.

Another distressing factor and one that is at times very destructive is hemorrhage. Bleeding occurring to any great extent back of the lens is almost always of grave consequence and any relief that it demands is at best unsatisfactory.

The feature that concerns us most in these cases is the treatment. In the whole domain of surgery there is nothing that calls forth a man's best judgment and taxes his resourcefulness as does the proper handling of these lesions. To temporize with them is often to lose the eye. Former experience frequently counts for little, for the extent of the injury, the structures involved and the nature of the agent makes each case a law unto itself.

The treatment naturally divides itself into two forms—one applicable to recent cases and the other to the old. In every instance the most careful examination and inspection of the wound is imperative. Nothing could be taken for granted, for the unexpected often occurs.

In non-penetrating recent cases an expectant attitude can be assumed, and in these only, for those in which penetration has taken place an entirely different state of affairs is present. Every penetrating wound should be looked on as probably infected, and appropriate measures immediately instituted—an error at times, but a safe one to make.

Unfortunately for the oculist, the delicate structure of the tissues of the eye makes it impossible to use the vigorous measures that are of value to the general surgeon. Considering this fact, infection is, fortunately, not as common as would be supposed. When it does occur, however, it is most deplorable and of grave significance, rendering the condition of the tissues of secondary importance and surgical work unavailing.

I can not pass this subject without briefly mentioning an agent that is of great value after the usual ones have failed to control the situation. It is cyanid of mercury, used subconjunctivally, according to Darier's suggestion. In two of my cases, after every other measure failed, it has completely altered the aspect and issue of the case. It is certainly worthy of consideration and should be used not only as a last resort, but early. The only objection to its employment in this manner is that it is painful, but it is impossible and impracticable to handle this dangerous condition "with kid gloves."

The introduction of iodoform into the interior of the eye in this class of cases is receiving considerable encouragement. Personally its limited use so far has been disappointing.

A foreign body in the eye converts every injury, insignificant or otherwise, into a serious lesion. Every effort to remove it should always be made, even though it frequently is most difficult and often unsuccessful. An occasional freak case of tolerance offers no excuse for allowing it to remain. Magnetic foreign bodies, thanks to the spectacular work of the giant magnet, have, to a large degree, lost their alarming significance. Non-magnetic bodies continue and, perhaps, will do so, the *bête noir* of the oculist.

To suggest or to prescribe the proper surgical measures indicated in a particular case is impossible, for none are typical and no fixed rule can be laid down. Every individual case has its peculiarities and calls for an operation devised especially for itself. Most men are agreed in regard to general principles, and whether a wound is to be closed by suture, conjunctival flap or compress bandage is a matter of secondary importance. One fundamental, however, that should always be remembered is that surgery, at the time of injury, should be restricted as much as possible. Aseptic methods have made us bold and at times meddlesome. The vitality of the tissues is always diminished and additional traumatism encourages infection. Conservatism should be the rule, leaving as much as possible for a later period when the eye is quiet and the chances of infection reduced. One remedy deserving of special mention and of great value in certain of these cases is dionin. I believe it to be our most valuable accession since the advent of epinephrin. When indicated, it is of the greatest benefit not only for its analgesic properties, but for its ability to clear the eye of exudate and the cornea of recent opacities.

In extreme and severe injuries the question of enucleation or evisceration becomes prominent. It is of vital importance to the patient whether or not his eyeball can be saved for him, even though sightless. This is especially true in the case of children, for not only their comfort, but their orbital development depends on the retention of the globe. Great care and judgment is often necessary and the sound eye must always be given the consideration it deserves.

Burns of the eye and adnexa constitute a distinct class of their own. The character of the agent, the extent, degree and destruction of tissue making them usually of serious import. It is in these cases that an effort, additional to the usual ones, must be made to prevent disastrous cicatrices and adhesions, with their resulting contraction and distortion of the parts.

In all doubtful cases, consultation is advisable. We are prone as our practice and experience increases to look on our own ability as sufficient. This fallacious idea sooner or later will be followed by disappointment and chagrin. No man is so far advanced that he can not at times be wrong. Neither is it always the small man that is in error. Mistakes are common property.

All prognoses should be most guarded, for in spite of every precaution and precedent the best laid plans may miscarry. Disappointing results are always possible and often occur in the most favorable appearing cases.

The treatment of old cases and secondary work frequently requires the greatest skill on the part of the surgeon. The extreme delicacy of the tissues makes plastic work in this locality very exacting. These cases constitute a large majority of our operative work and their handling requires no description here.

DISCUSSION.

ON THE PAPERS OF DRS. DONOVAN, HEATH AND MILLER.

Dr. Edward Jackson, Denver, emphasized Dr. Donovan's advice, which departed somewhat from the usual teaching as to the treatment of foreign bodies in the eye. Some of the foreign bodies, large ones, those that are evidently going to make trouble, may be removed at once; others may be removed from time to time as they cause trouble; and still others may be let alone always. The number is often so great that it would be impossible to get all out without messing the eye up, and yet such cases are not hopeless. Dr. Jackson reported that he had recently seen a patient whom he treated five or six years ago who now has useful vision. He had 50 or 60 foreign bodies in the cornea, a number in the iris, and the lens had so many that it underwent spontaneous absorption, and he gets good vision with a cataract glass. The eye has been perfectly quiet for over four years. This case was watched for months, and simply atropin used with occasionally hot applications. The patient's life was despaired of at first because of the extensive injury, but the eyeball was treated simply by this expectant method. In the mountain regions such injuries as these are common. Dr. Jackson mentioned the fact that eyes that have been subjected to serious injury, particularly those that remain irritable, with chronic uveitis, weeks and months afterward, have improved after the employment of the *x*-ray to discover the possible presence of foreign bodies; it has been thought that the improvement might be due to the influence of the *x*-ray, and yet the fact that the eye had not been under very skilled supervision before left the suggestion that it might be the change of treatment in other respects. Dr. Jackson cited the case of a young man who had had his eye injured in Mexico; a month or more elapsed before he received any skilled treatment. He was under observation for six months, and the most marked improvement was after the use of the *x*-ray to discover any possible foreign body. It finally yielded permanently to the *x*-ray influence so that he was allowed to return to Mexico.

Dr. J. Hirschberg, Berlin, Germany, said that his surgical interference with the magnet amounts to some three hundred cases in the last twenty-five years. There are cases in which eyes with foreign bodies seemed to be saved, but it was a deception. Before good magnets were employed no attempt was made to cut the globe and to remove the foreign bodies. It is clear that every particle of iron must be extracted from the posterior parts of the globe; particularly if the case is fresh Dr. Hirschberg always interferes at once, if possible within ten or fifteen minutes after the patient comes in. One can never be sure about the nature of the infectious material. Foreign bodies received into the eye from shoeing horses are particularly infectious. These cases are clear, but in others there is no test of the infectious character of the foreign body, and so in fresh cases one should always endeavor to extract them. Never apply the giant magnet as a means of diagnosis; that is very bad. Dr. Hirschberg has seen in America several specimens of the Hirschberg magnet which are not the modern magnet at all. One of the dangers, of course, is sloughing of the eyeball following the introduction of septic material. But, even if the body is aseptic, there are many dangers. If the splinter is as large as the papilla optica, generally there follows the formation of connective tissue with detachment. If the foreign body is not so large, however, it is still not free from danger. There will be contraction of the field in dim light, and, even though the case may seem to do well for many years, the eye is never out of danger. Last year Dr. Hirschberg removed from the retina a foreign body of sixteen years' standing and got good vision. A careful examination of the field of vision showed contraction, and if left alone the eye would surely have become blind. Even after sixteen years, then, good results were obtained with extraction of the foreign body without detachment of the retina. Dr. Hirschberg referred to the so-called "tolerance of the eyeball for foreign bodies;" he thought we should speak of the "intolerance" of the eye for foreign bodies. Some one had asked what is done with the iris when the foreign body is brought into the anterior chamber, and Dr. Hirschberg said that after he gets the body into the anterior chamber he makes an incision and introduces the curved point of the magnet and draws it out, then replaces the iris, and the pupil generally remains round.

Dr. Eugene Smith, Detroit, said that he had had in his paraphernalia for a great many years a Hirschberg magnet, and that he had been successful in a number of instances with the hand magnet in getting out pieces of steel which were not touched by the Haab giant magnet. In other cases in which steel was imbedded in the ciliary region, attempted extraction with the Haab magnet has been followed with destruction of the eye. Dr. Smith said that he has long been on record as being in favor of locating the piece of steel and making an incision in the sclera in the immediate vicinity of the foreign body and using a Hirschberg magnet for its withdrawal. There are, however, many of these cases in which it is almost impossible to locate the foreign body. He always endeavors to get at the position of the patient at the time of the accident so as to get as nearly as possible the direction in which the piece of steel has entered the eye; also the force of the blow as nearly as possible. This will often aid considerably in getting at the depth. If a foreign body has gone directly in, it will be in the posterior part of the eye; if diagonally, one can get at it better by making efforts in the direction in which the body has gone. If the case is not seen until after the original wound has closed, it may be located with the ophthalmoscope or the sideroscope, and then an incision through the sclera in the immediate vicinity of the foreign body is preferable to the use of the Haab magnet, with the danger of drawing it into the ciliary region. Dr. Smith reminded the section that a number of years ago he gave to the association an operation for the relief of iridodialysis, but the text-books have not mentioned it. Others, however, especially across the water, have employed it. Where the iris is torn loose and hangs free, and there is interference with vision from the two pupils, Dr. Smith thought of the method of making an oblique incision just at the sclerocorneal junction, introducing the forceps, taking hold of the iris and drawing it gently into this oblique incision, where by a pressure bandage it remained, obliterating almost entirely the extra pupil, or making it so small as not to interfere with vision. Other operators have found favorable results from the use of the method.

Dr. W. E. Briggs, Sacramento, said that the tendency of the profession is to be too radical in the treatment of the cases in which there are a great number of foreign bodies in the eye. Special workers have to contend against the fact that the surgeon who attends the case first is very liable to be too radical. Dr. Briggs has had a number of patients in whom useful vision has been saved, even when both eyes were injured, by advising strongly against any radical procedure. Useful vision can often be preserved with a number of foreign bodies remaining in the eye. A few months ago he had a patient with foreign bodies in the vitreous of both eyes. In one eye there was no possibility of saving vision, and the eye was so painful that it had to be enucleated, but the other, which one would ordinarily say could not be saved, as there were a large number of foreign bodies in the vitreous, pieces of quartz and grains of powder, was let alone. The patient now has sufficient vision in that eye to enable him to go about and even to make change. In another case, when the physician asked if it were not advisable to enucleate both eyes in a case of very extensive injury, Dr. Briggs thought it well to wait until enucleation seemed absolutely necessary; this, too, was a case of quartz in the eye. That patient retained enough vision to go about without difficulty.

Dr. L. H. Taylor, Wilkesbarre, Pa., declared that it is not altogether the place in which the injury occurs, but the sort of foreign body that enters the eye, that determines the danger. Those who practice in mining regions have opportunities to see injuries of all degrees and kinds. Some very serious ones get well with little difficulty, while others, seemingly slight, cause a great deal of injury. Dr. Taylor mentioned the case of a man who after a most severe injury has good vision after a lapse of twenty years. In another case he removed a large piece of coal that had been in the eye for many years without causing trouble; then there presented a small point in the conjunctiva, and on operating to remove it he found a very large body, and yet the patient had carried it for many years with good vision. Dr. Taylor referred to a paper by D. Harlan, presented some years ago, on "Blind Eyes Are Dangerous Eyes," and said that these eyes are always liable to set up trouble, but whether they should always be removed is another question. He removed an eye some time ago that he had treated seventeen years previously. During that time the patient had had no trouble. In another case he removed an eye in which a foreign body had been carried for thirty-two years. There was a great deal of irritation and the eye had to be removed. He asked if those two eyes should have been removed at once. Of course, it would have been safer, and yet one patient went seventeen and the other thirty-two years without discomfort, and surely they were in a better condition with the blind eyes than they would have been with artificial ones. If patients could only be watched, Dr. Taylor believes that many eyes that are enucleated might be saved, even though blind eyes with foreign bodies in them.

Dr. John E. Weeks, New York, stated that the prognosis depends largely on the character of the foreign body. As Professor Hirschberg has said, a foreign body composed of steel or iron is disastrous to the eye in almost, if not in every case, sooner or later, and should be removed as soon as possible. A piece of steel may remain in the eye a number of years, but sooner or later it is sure to cause trouble. Copper is another of these substances. It produces inflammatory reaction of a severe type and suppuration, and should always be removed as soon as possible after its discovery in the eye. Many pieces of rock and earthy material may remain in the eye without producing any great inflammatory reaction, and these minute particles may be allowed to remain with the hope of retaining a certain amount of useful vision. Particles of glass under certain conditions may remain indefinitely without doing away with the vision of the eye. Particles of powder also may remain in this way, and particles of lead, but in the majority of cases lead will set up an irritation that makes necessary the removal of the eye. Dr. Weeks has seen shot remain in the eye many years with retention of good vision, but ultimately the eye became irritable and operative procedures had to be instituted. If the character of the foreign body is known the method of treatment may be based on that knowledge. When a foreign body is present, Dr. Weeks thinks it is essential to know the location of that body as nearly as possible, and every method for its localization should be employed. In removal of a foreign body from the anterior chamber Dr. Weeks always makes a T-shaped incision, as otherwise the lips of the wound are too rigid, but with a T-shaped incision there is a satisfactory scar and the lips of the wound are pliable, so that the foreign body may be removed much more easily.

Dr. S. D. Risley, Philadelphia, emphasized the necessity for waiting before any operative interference for the removal of the cataractous lens in these cases. There are a great many of these at the Wills' Hospital in Philadelphia, and he learned long ago to advise waiting until the eyes became quiet, and many times he has had patients go through a few weeks of treatment at the hospital and then sent them home, telling them to come back in six months, and he has found that after the eyes became quiet operative interference could be undertaken with less danger. He referred to one of the cases mentioned in Dr. Heath's paper, in which a foreign body was entangled in the iris and was difficult to remove, and in which Dr. Heath made a T-shaped incision and succeeded in removing the foreign body and in replacing the iris. He asked whether in the majority of cases this would be the proper course to pursue. Dr. Risley's experience bears him out, he said, in the statement that it would have been better to remove the foreign body with the entangled particle of iris. The iris is prone to take on inflammatory reaction of a plastic nature, and he believes that it would be safer to have done an iridectomy in the removal of the foreign body. He said that with particles of suitable size, after they have been located with the x-rays, it is safer to remove them without the use of a giant magnet. If they are not already in the anterior chamber he thinks that by making a scleral puncture and placing the Hirschberg magnet to the lips of the wound, the foreign body may be withdrawn without introducing the magnet. It is never prudent or wise to insert the point into the vitreous if it can be avoided. If the foreign body weighs a grain or two, the giant magnet is always unsafe. He has seen the iris bulge with the foreign body, cut off the current immediately, and then he has seen the foreign body come through the point of entrance like a bullet, and take with it the iris. Therefore, if the body is of any considerable size the giant magnet is dangerous. Dr. Risley has seen a silver suture, which had been overlooked in a wound, removed after five years, and the tissues were discovered almost black. He alluded to this to illustrate the chemical changes that may take place in certain of these bodies located in the eye. With the known presence of these metals in the eye, strenuous efforts should be made for their removal. As to the non-magnetic character of some forms of steel, as manganese steel, attempts at removal may be disappointing, because of the low degree of magnetic properties of these substances.

Dr. Mark D. Stevenson, Akron, Ohio, said that he has been using iodoform in beginning panophthalmitis and feeling that possibly the discs might be more or less irritating he attempted to place the powder in the eye; this was done with considerable difficulty. More recently he devised a little instrument by which the powder may be placed within the eye very easily. Of course, when the particle is sterile or when there is no infection it would be unwise to use the iodoform. In recent cases in which there is known danger of infection it would be wise to introduce the iodoform immediately. He prefers the powder because it remains for a considerable time and can always be readily seen, giving assurance that the substance is still there. If a fluid is placed in the eye it may flow out in the anterior chamber with the aqueous humor. He finds that eyes in which he has used iodoform heal very readily.

Dr. John A. Donovan stated that the foreign bodies in these blasting operations are non-magnetic in character, so that the use of the magnet does not come into question. He would endeavor to remove foreign bodies in every case where it is possible.

Dr. F. C. Heath said, in reference to the case in which he left a small particle in the iris, that prolonged efforts would have injured the eye more than leaving the foreign body in. First, the foreign body was small, not more than one-quarter the size of the head of a pin; second, it was in a position where it was not likely to set up trouble; third, the patient had lost the other eye.

The Consultant.—Every practitioner who has been in active practice for twenty-five years should have a competency and should devote himself to consultation practice in special work, leaving general practice to the younger.—*Pacific Med. Jour.*

THE MATAS OPERATION FOR THE RADICAL CURE OF ANEURISM,

AS APPLIED IN TWO CASES OF RUPTURED ANEURISM.*

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The procedure described by Dr. Rudolph Matas[1] has attracted widespread attention, and has been tried in a number of successful cases, recently reported, sufficiently to prove its merit as a permanent and notable advance in the surgical treatment of aneurism. It is still, however, a comparatively new and untried method, and all clinical reports which bear on its application in atypical conditions should be instructive and profitable to the practical surgeon.

Presuming that the reader is familiar with the original procedure described by Dr. Matas, I will limit my remarks to two cases of aneurism of the fusiform type which came under my observation in the Charity Hospital. In each instance, the aneurism had ruptured into the subcutaneous and intermuscular spaces before I was called to operate on the patient. On account of existing conditions, I deemed it expedient to depart in some details from the technic recommended by the originator of the method, while preserving the fundamental principle of using the suture in controlling the bleeding orifices within the sac. The results would show that in adapting ourselves to atypical conditions, variations in technic are permissible and advantageous, as they do not affect the principle of the method, while they expand its application.

Case 1.—C. P., laborer, aged 40 years, was admitted to Charity Hospital August 1, 1904.

History.—Family and personal history were negative. Three weeks before admission he noticed some swelling about the right ankle. One week later, while at work, he noticed a swelling about the middle and on the inner side of the thigh, which had continued to increase in size since, and became painful after the first week. He had had no chills or fever. Just before applying to the hospital he consulted a physician who punctured the swelling with a hypodermic syringe and drew some blood and advised him to come to the hospital and have the abscess (so he called it) opened.

Examination.—This showed a hard, somewhat fluctuating, irregularly ovoidal tumor tapering to a point above at about the origin of the adductor magnus muscle. It was largest at about the middle of the thigh and extended below to within about four inches of the upper border of the patella. The tumor was well defined except at its upper end. No pain on pressure, no pulsation, no thrill, and no bruit could be discerned.

The skin was freely movable over the tumor and was slightly warmer than the surrounding parts. The femoral artery could be felt to pulsate down to about the middle of the tumor, but was then lost in its substance. There was no pulsation in the dorsalis pedis or posterior tibial arteries. The pain in past three days had been increasing in intensity.

Operation.—He was put to bed and prepared, and on August 4, under chloroform anesthesia an incision was made over the most prominent part of the tumor anteriorly, and after going through skin and superficial fascia, an exploring needle was inserted into the tumor and some dark blood aspirated. Through a second incision, a provisional ligature of stout silk was passed around the femoral artery, just below Poupart's ligament, to control hemorrhage. The incision over the tumor was now completed and a large cavity fully 12 inches in length and 6 in depth, filled with fluid and clotted blood was exposed. There was some active bleeding and after quickly washing out blood clots and sponging out all fluid, the chief bleeding point was located just above the femoral opening in the adductor magnus muscle. This bleeding was stopped by digital pressure and the cavity inspected. The bleeding point proved to be the lower opening of an aneurismal sac which had ruptured anteriorly and now formed part of the floor of the present cavity which had been produced by the blood extravasated into the tissues immediately surrounding it. On further examination, it was found that there was still some bleeding and that this came from the upper opening of the sac, which was seen about two inches above the lower, bleeding also, but less profusely. Both openings were closed with silk purse-string sutures, over which were inserted a layer of interrupted Lembert sutures; the provisional ligature on the common femoral was then removed, and all bleeding found to have been completely controlled. The removal of the ligature, however, revealed an aneurismal dilatation of the femoral artery for a distance of about one and a half inches above its opening into the sac, with an intervening apparently healthy constriction at its point of entrance. Another silk ligature was applied around the vessel just above this dilatation and tied. The sac was then irrigated thoroughly with hot normal saline solution and washed clear of clots and sponged dry. Two long laparotomy gauze sponges were inserted and the ends pushed up to the upper end and bottom of the cavity and the wound partly closed with silkworm gut sutures, thus allowing free drainage of any secretion that might accumulate in such a large cavity. The upper incision over the femoral artery was sutured with catgut, and after the application of an abundant loose gauze dressing, the whole limb was wrapped in several layers of cotton batting, and a posterior gutter pasteboard splint was applied, immobilizing the knee in extension. The limb was kept slightly elevated and surrounded with hot cans. The foot was warm immediately after the operation and continued so, there being apparently no interference with its circulation, and several days later pulsation could be felt in the dorsalis pedis artery.

After-treatment.—The dressing was removed on the sixth day, it was very much soaked with secretions, and the cavity was washed and repacked. This procedure was repeated every second or third day till the wound finally closed by granulation from the bottom. This took place very rapidly and he was discharged October 15, with perfect functional result.

Case 2.—H. W., aged 30, was admitted to Ward 4, November 25, 1904.

History.—Family history is negative. The patient smokes, chews and drinks. Former diseases: Both legs were broken seven years ago at junction of middle and lower third. He was in a railroad wreck one and a half yars ago and received general contusions. He had gonorrhea seven years ago, but denies having had syphilis. The present complaint began in June, 1904, with pain in middle third of left tibia, extending to the ankle. This pain constantly increased. About Nov. 1, 1904, the patient noticed a pulsating painful tumor in the left popliteal space. This tumor became smaller under treatment of pressure applied with a cork and bandage. He tried this plan about one week, then he took the bandage off and began hard work in a sawmill. He worked ten days, when he noticed that his left ankle was swollen and he had a severe pain in the leg. The tumor appeared again in the popliteal space and began to grow much larger and became more painful.

Examination.—There is general arteriosclerosis and an aortic obstructive murmur. There was a large, pulsating expansile tumor occupying the left popliteal space, which increased one inch in size (circumference around knee) when pressure had been made above and released. A bruit could be heard over the tumor and over the femoral artery at Poupart's ligament. There was no pulsation in the posterior tibial artery. Pressure below did not increase size of tumor.

Treatment.—The patient was put to bed and [illegible]dered potassium iodid, grains 10 t. i. d. and the dose in[illegible]ased one grain daily. On November 27 an icebag was [illegible]ed to the knee,

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[*] Read at the annual meeting of the Louisiana State Medical Society in New Orleans, 1905.

[1] The Radical Cure of Aneurism, Based on Arteriorrhaphy; Trans. Amer. Surg. Assoc., 1902; Ann. of Surg., January, 1903.

codein sulphate ¼ grain was given and the leg was elevated. Temperature at this time was 98 F., pulse 96, respiration 24. The patient complained a great deal on that day. About 2 p. m. the pain suddenly ceased. At 4 p. m. temperature was 101, pulse 120, respiration 24. Examination of the knee showed a soft fluctuating mass to outer side of and above the patella. At 7 p. m. a ruptured aneurism having been diagnosed, he was taken to the amphitheater and prepared for operation.

Operation.—Under chloroform anesthesia, ether being substituted later, an elastic constrictor was applied in the upper part of the thigh and a longitudinal incision of about three and a half inches was made over the center of the tumor in the popliteal space, and a large cavity filled with clotted and fluid blood was exposed to view. After washing out the blood and clots the cavity was seen to be about six inches in longitudinal and four inches in transverse diameter. Its upper boundary was not so well defined as the lateral and lower ones, the blood having evidently dissected its way under the hamstring muscles on the outer side, and between them above, where the cavity ran up into a point. On the inner aspect and near the bottom, the wall of the cavity presented an area about one and a half inches in diameter and two and one-half inches in length, which was whiter and more smooth and glistening than the rest of its surface, which was of a dark and bloody hue. This proved to be the original aneurismal sac, there being one opening in it near its upper margin and one near its lower, and about one and a half inches apart. These openings were closed with Lembert sutures of small silk on a curved needle, and, as an additional safeguard, a suture was passed completely encircling the upper opening and tied. On the removal of the elastic constrictor there was no bleeding whatever. The cavity was once more flushed with hot saline solution and packed with gauze and a large dressing applied. The limb was wrapped in cotton batting and a posterior splint of pasteboard applied to immobilize the knee. Hot cans were applied around the limb for two days. The toes were felt to be warm, however, on his return to the ward from the operating room, and the wound healed from the bottom by granulation. He made an uneventful recovery, being discharged from the hospital cured on Jan. 9, 1905.

REMARKS.

In the first case, the diagnosis of aneurism was not made till the sac had been opened, though, fortunately, the common femoral artery had been tied temporarily as a preliminary measure. In the second case, my attention was called to the patient by the appearance of a soft swelling to the outer side of, and somewhat above, the patella in a case previously diagnosed as popliteal aneurism. In both cases, hemostasis was secured by suturing the arterial openings within the aneurismal sac. The sac was not excised nor was it obliterated. The dissection of the tissues by the extravasated blood had created a cavity of such size in each case that it was deemed proper (in view of possible infection of so large a space, which would soon fill with fluid secretion from its extensive surface if not drained), to irrigate thoroughly and to use a long gauze drain; which performed its functions well, as the copious secretion on the dressing later showed. There was little or no interference with the warmth, sensation, or nutrition of the limb beyond the aneurism as a result of the operation. The functional result was perfect on discharge, the healing being complete.

The operation as described by Dr. Matas is probably the simplest and easiest operation devised for the purpose, when temporary hemostasis can be secured by an elastic constrictor, a provisional ligature, or even digital pressure. Any one who has performed the tedious, prolonged operation of ligation above and below and excision of the sac is certain to become a convert to this method the first time he tries it. The incision required is smaller, the openings in the vessel are easily and very plainly exposed to view, and very easily closed by suture. The number of rows of sutures may be increased at the option of the operator to any number he may deem necessary to insure safety against secondary hemorrhage. The integrity of the sac is not interfered with, and as there is no dissection either around, or above, or below the sac, there can be no interference with collateral circulation so essential to the life of the limb beyond.

There is one point that is brought out by these cases and which makes them especially worthy of record, and that is, that where the aneurism has ruptured some time previously and has given rise to a cavity of such size that its obliteration by suture would become either impracticable owing to its extent, or inadvisable owing to the possibility of interference with collateral circulation by the incision and dissection rendered necessary to expose the whole cavity for the purpose of suturing, it is better to close the incision partly, and to drain, allowing the wound to fill by granulation from the bottom, instead of obliterating the cavity by suture, as is done in the unruptured cases. This can be very materially aided by gentle compression of the sac in the application of the dressing and the use of a gauze drain that will act as a wick rather than as a pack.

In Case 1, for instance, in order to have sutured together the walls of this cavity, it would have been necessary to make an incision of about fourteen inches in length. There is the additional advantage, too, of a saving of time by this method, which is of momentous importance to a large class of patients who stand operation and anesthesia badly.

THE EFFECTS OF THE INHALATION OF THE FUMES OF NITRIC ACID.

WITH REPORT OF CASES.*

J. N. HALL, M.D., AND C. E. COOPER, M.D.
DENVER.

The Denver Fire Department was called to the office of the *Denver Post* Sept. 20, 1904, at 4 p. m. On arrival they were informed that a carboy of nitric acid had been accidentally broken in an attempt to remove the stopper with a hammer. The acid spread across the floor, coming in contact with the zinc used in etching. Sawdust was used to absorb it, and, rapidly oxidizing, burst into flame here and there, resulting in the call for the firemen. Mr. Bradt, foreman of the department, who was at work in the room, states that the fumes and smoke were not especially irritating until the portable apparatus began playing on the fire, the usual carbonic acid-producing solutions being employed.

We find by examination that the acid used contained no appreciable amount of nitrous acid and was of about 38 per cent. strength. About ten gallons of it escaped from the carboy. We believe the symptoms to have been caused by the smoke, made much more irritating and corrosive by the presence of the nitric acid and the products of its union with organic matter. Dr. E. C. Hill states that under these circumstances HNO_2 would arise from decomposition of the HNO_3, and also nitric peroxid (NO_2), and nitric oxid (NO).

Haines and Peterson[1] state that nitric oxid (NO) is obtained by the deoxidation of nitric acid, by the action of this acid on metals, vegetable fibers, etc. They mention, as symptoms of acute poisoning, dyspnea, tightness of the chest, coughing, fainting, cyanosis, diarrhea and collapse. Concerning one case they state:

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

[1] Text-book of Legal Medicine and Toxicology.

> Blood drawn on venesection tarry, thick, black and rapidly coagulating. It is of diminished alkalinity, and on dilution becomes red and shows the oxyhemoglobin spectrum.

All of these compounds are irritating when inhaled. In view, however, of the irritant qualities of many gases inhaled in fires, in the use of disinfectants and otherwise, and the more or less similar results in most such cases, we would insist on the point that the irritation of the inhaled fumes, and not the direct chemical action, is probably the dangerous feature. Thus Dr. Hall has reported[2] a rapidly fatal case of bronchopneumonia resulting from the inhalation of smoke from burning weeds and grass, the subject being a feeble asthmatic of 61 years. In the same paper were reported cases from the inhalation of chlorin, of sulphurous acid, and of formaldehyd, differing only in degree from the cases we are now studying, and from each other. The chemical effect is apparently subsidiary to the irritant one in all; but, in general, we must conclude that smoke, which is not much feared by firemen, is vastly more irritating and, therefore, dangerous when contaminated with fumes of various chemicals.

Eighteen firemen and two men employed in the office were affected severely enough to demand medical aid. Of these, four died, two on the second day, from the direct consequences, and two several weeks later from relapse. The immediate symptoms complained of while exposed to the fumes were, in order of frequency, as follows: Dyspnea, pain in the stomach, pain in the chest, headache, dryness of the throat, coughing, vomiting, dizziness, difficulty in walking, and dryness of the nose. No unconsciousness was noted. Nearly all the firemen returned to their respective firehouses, not considering themselves seriously sick. After a few hours many of them sought medical aid, and within twenty-four hours all of them excepting one were patients in the Emergency Hospital.

We next present a list of the prominent symptoms noted in 15 of the 16 cases which recovered: Dyspnea, present in 100 per cent.; cough, present in 93 per cent.; pain, present in 87 per cent., especially in the sides of the chest, stomach, lungs, throat, loins and head; dizziness and nausea, present in 73 per cent.; cough of especial violence, present in 67 per cent.; vomiting, present in 53 per cent.

During the first week of illness dyspnea persisted in 100 per cent. of the cases; 93 per cent. were confined to bed during this time. Pain persisted in all those who complained of it during the first day, and in practically the same localities.

Marked prostration was present in 87 per cent. Fever in 80 per cent., generally of moderate severity. The cough generally persisted, with bloody expectoration, in 27 per cent., and voluminous expectoration in 60 per cent. The taste of nitric acid in the expectoration was complained of by several patients.

Within the first half of the second week many of them were discharged, the average time in bed for the whole number being eleven days. Ninety-three per cent. complained of general weakness, and but one felt well on arising.

Relapse occurred in 33 per cent. of these cases, generally in the third week, and averaging 15½ days in duration. The symptoms were those of the original attack, but of less intensity.

The length of time from the exposure until practical recovery in eight cases averaged 113 days, the maximum being 210 days, the minimum 90 days. Five state that they are not well yet, and two failed to answer.

Those having any remaining symptoms nine months after the attack number eleven, or 74 per cent. These symptoms, in order of frequency, are dyspnea, "nervousness," stomach troubles of various kinds, cough, dryness of throat and nose, pain in the chest, loss of weight, dyspnea on inhalation of smoke, dizziness, pain in the loins, and headache.

There was a loss of weight in 87 per cent. of the men, entirely regained in 40 per cent., not regained in 13 per cent., and no reply was made in 47 per cent. The average loss was 25 pounds, maximum 40 pounds, minimum 20 pounds. The average regained was 18½ pounds, maximum 30 pounds, minimum 5 pounds.

Sixty per cent. find they are more susceptible to cold now than previously. The dryness of the nose is thought to be due to a beginning chronic rhinitis, due to the irritation of the fumes inhaled. The dyspnea on inhalation of smoke may well be largely nervous in origin, but doubtless in part because of the increased susceptibility of the bronchial mucous membrane due to the action of irritants. The pains in the sides of the chest are, we believe, pleuritic in origin. They were exceedingly severe in some of the cases in the first days of the illness, indicating at that time a dry pleurisy, since friction sounds were heard. The later pains may well have been sequential to such a pleurisy. The rapidity with which the pain developed in some cases suggests the likelihood of its having arisen from direct irritation of the lung by the acrid smoke.

Albumin was noted in at least one of the cases, but evidently no such damage was done to the kidneys as in some cases we have seen in which acute nephritis followed the swallowing of mineral acids. Probably little of the acid was absorbed, most of the damage from it being caused by its irritant effect.

Two of the cases died on the second day, one on the twenty-second day during a relapse, and one at the end of one month, also during a relapse.

The two who died on the second day were affected about as were those who recovered, but more severely. Cough was not a notable symptom. Cyanosis, nausea, diaphragmatic pain, dyspnea and vomiting were noted early. In both there was unconsciousness for several hours before death, and the physical signs of a progressive bronchopneumonia, but without the fever and other constitutional symptoms of an infectious disease. One of these had an extremely rapid pulse. Both expectorated frothy, blood-tinged serous fluid for some hours before death. Dr. P. V. Carlin informs us that pneumothorax developed in one of them.

The two who died during relapse suffered about as the others did during the primary attacks. Both were comparatively well during the interval. Both were exposed to cold and almost immediately entered the relapse. The two cases were similar enough so that the following description may well answer for both:

The sputum was blood streaked, thin and abundant. The cough was at times violent. Pleuritic pain was severe (and in one severe pain existed in the pharynx, larynx and esophagus). Large and small râles were abundant, at first in the lower portion of the chest, and gradually extending upward. There was moderate rise in temperature, pulse and respiration. The cyanosis was intense (and not relieved by oxygen in one of the cases, although somewhat so in the other). Both died with all of the symptoms and signs of a desperate bronchopneumonia.

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[2] Phila. Med. Journal, 1902. "Bronchitis and Bronchopneumonia from Inhalation of Irritants."

Before the relapse both of the men had been discharged from the hospital as recovered from the acute condition, although both complained of moderate exhaustion, such as is common to the period of convalescence from any acute illness.

In one of them examined the day before the relapse, no physical signs of disease were found. We believe that exposure to cold, which occurred in both cases, was the exciting cause of a renewed and virulent inflammation, rapidly extending into a definite bronchopneumonia, as above described.

On two patients autopsies were held, unfortunately unknown to either of us. We quote portions of the reports to the coroner by Dr. W. S. Holmquist and Dr. H. R. McGraw:

Dolloff.—"The pericardium showed spots of metallic luster on the upper surface. The heart was filled with extremely dark coagulated blood, less consistent than clotted blood. Pleuræ free. Lungs large and voluminous, on section bled freely. Some spots were devoid of air. Bronchioles filled with bloody fluid. Much of the lung tissue was edematous and heavy. Mucosa of bronchi perceptibly thickened."

"*Diagnosis.*—Deceased died from asphyxia, due to an acute congestion of the lungs; and a pathologic change in the hemoglobin of the blood."

Eyman.—(Died in relapse, one month from exposure.) The essential features are stated by Dr. H. R. McGraw "to have been those of a bronchopneumonia, with almost complete solidification of lung in places. Sections from these solidified portions showed superficial coagulation necrosis and the alveoli were found filled with necrosed cells in places. Other parts showed a beginning fibrous development. Deposits of blood pigment were noted in spots upon the peritoneum. Dilatation and hypertrophy of the heart. No changes were noted in other organs."

The pathology, in our opinion, is a combination of purely local and general effects. Locally, the inhalation of the nitrous and nitric oxids, the products of combustion, and of the chemical reactions between the acid, zinc, and the chemical solution used to extinguish the blaze, assisted by the violent respiratory efforts occasioned by the physical exertion, produced an irritation and probably a mild coagulation necrosis of the mucous membrane of the air passages and the alveoli. In the two cases that died early there was produced promptly a severe bronchopneumonia. In those dying during a relapse the necrotic areas were largely cleared up by absorption and exfoliation, leaving exposed a delicate and susceptible membrane. The exposure to cold was sufficient to excite a bronchopneumonia of especial intensity on this account, proving rapidly fatal. Dr. Hall has reported[3] a case of lobar pneumonia in which, twenty-three days after recovery, a robust young man was exposed for a few hours to severe cold (about 20 degrees below zero), and died in a few hours of acute pulmonic congestion. It is probable that the fatal result in this case, as in those we are studying, was due to a bronchopneumonia, with great accompanying edema..

The cyanosis in the severe cases was extreme. It was doubtless in part purely mechanical, as in ordinary bronchopneumonia, but largely due to the changes produced in the hemoglobin to which we have referred, and which interfered with its oxygen-carrying capacity. We await anxiously the careful investigations of Drs. Holmquist and Edson on this feature of the cases which they have studied.

The treatment generally followed, we believe, was that of an ordinary severe bronchopneumonia. Oxygen was used in all of the severe cases, with differing but generally unsatisfactory results. In a severe case of Dr. Cooper's, aconite in minim dosage, with vigorous external counter-irritation, was followed by marked relief. This was the patient who finally died in the relapse on the twenty-second day, these measures proving ineffectual at this time.

To us it seems that the one most important factor in determining the question of death or recovery was the severity of the *initial exposure*. Theoretically, the inhalation of ammonia at the time of exposure should be of benefit, but this would hardly be practicable. We believe that, at present, stimulation, the use of oxygen when indicated, atropia for the edematous exudation, vigorous counter-irritation, with eliminative and supportive measures offer us the most hope in the primary attack. If recovery occurs, we would strongly urge *suspension from work, rigorous avoidance of exposure,* and residence for some months in a warm, equable climate, such as one would choose for a feeble patient with chronic bronchitis. Those of the Denver cases who were able to follow such a course are at present working, and without serious symptoms. In view of the lessened pulmonary resistance, we would suggest also the adoption of effective measures for the avoidance of infection by the bacillus of tuberculosis.

If we can not save all of those exposed in the performance of their perilous duties to the inhalation of dangerous gases, we should insist the more strongly on the avoidance of anything tending to bring about *relapse, which we have noted to be so fatal.*[4] It is likely that we can save more lives by strict attention to this feature than by any other single measure.

We are under especial obligations to Dr. W. H. Sharpley, Health Commissioner of the City and County of Denver, for his encouragement and assistance in the preparation of this paper; to the Denver Fire Department, and to the physicians who attended other cases than those which we saw, who have so generously given us their aid.

DISCUSSION.

Dr. N. H. Neilson, Milwaukee, Wis., reported having the same experience in Milwaukee, two years ago, showing the effects of the fumes of nitric acid by inhalation. The men who were engaged in putting out the fire returned to the station house, and within one or two hours—six or seven hours after the exposure—they began to have symptoms of pulmonary congestion, as described in the paper. Some of the men died and some recovered for a time, but had relapses. Some had a chronic bronchitis and were sent to Texas, where they recovered—all but one, who became despondent and committed suicide. In these cases it was believed that the pulmonary edema was the result of the local irritation on the mucosa and not a systemic effect. Whatever systemic effect there was was from the inflammation alone. Dr. Neilson did not think that a report of the cases was published.

Dr. John H. Musser, Philadelphia, said that the autopsy findings in such cases do not support the belief in the presence of any pleuritis, and he, therefore, asked as to the occurrence of the inflammation and the vomiting.

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[3] Denver Medical Times, 1898.

[4] In the case of a fireman, quoted by Dr. Hall in the above-mentioned article as dying from inhalation of smoke containing fumes of some undetermined acid, the death was also during relapse, being directly caused by pulmonary embolism from a phlebitis of the leg, at the end of the fifth week.

Dr. G. W McCaskey, Fort Wayne, Ind., thought that the symptoms in these cases indicate a degree of exhaustion unusual with a simple irritative bronchitis, and that the evidence points toward a severe toxemia as a result of absorption of the poisonous gases. It is peculiarly the function of the respiratory tract to absorb gases, and it seems only reasonable to suppose that such absorption would take place and should be considered in accounting for the very severe constitutional symptoms manifested by these cases.

Dr. J. N. Hall, Denver, remarked that it was rather difficult to report these cases with any degree of accuracy, because they fell into the hands of about twenty physicians. Dr. Cooper took care of six and Dr. Hall three. A pleuritic friction was well marked, beginning within twenty-four hours. Necropsies were made by the coroner's physician, and the bodies were buried before Dr. Hall knew of the deaths. He, therefore, had no opportunity to study the pathology. The toxemia was similar to what would be expected from inhalation of chlorin, formaldehyd or smoke from burning grass, but no case pointed definitely to a toxemia from the acid itself. Dr. Hall could not explain the vomiting. Although none of those exposed were supposed to be sick enough to keep in, at the end of twenty-four hours they came back to the hospital.

Special Article

IMMUNITY.

CHAPTER XXI.

BOTULISM.

Bacillus Botulinus.

Botulism is a peculiar form of meat poisoning in which the nervous system is involved principally. From twenty-four to thirty-six hours after meals, salivation, ptosis, dilatation of the pupils and paralysis of the ocular muscles develop and death from bulbar paralysis occurs rapidly in from 25 to 30 per cent. of the cases. In the event of recovery, convalescence may extend over weeks or months. In 1895 V. Ermengem investigated a ham which had caused 50 cases of botulism, and isolated from it an anaërobic, spore forming bacillus, which produces a soluble toxin capable of causing the entire symptom-complex of the disease.[1]

Infected Meats.

The organism possesses flagellæ, has limited motility, grows only in alkaline media, and in contrast to most pathogenic organisms prefers a relatively low temperature (18-25° C.). It is probably on account of its physiologic activity at such temperatures that it is able to produce its toxin in meats which have been kept in a cool place. It is found in decomposed ham and various sausages (Leberwurst and Blutwurst.) The Germans speak of the disease as Wurstinfektion. The disease occurs especially in some European districts in which improperly preserved or raw meats are eaten. The bacillus appears to gain access to the meat after the animal has been killed. V. Ermengem investigated two hams from the same animal. One was under anaërobic conditions being covered with brine while the other was exposed to the air; only the former was toxic. The organisms may be absent from the superficial portion of the meat, but abundant in the deep portion. Aside from its occurrence in meat nothing is known of the life history of the bacillus. The term ichthyosismus is applied to a similar or identical disease which is caused in Russia by salted fish.

Toxin.

The disease is caused by the toxin which has already been produced in the meat and not to the activity of the organisms after it has reached the alimentary tract (v. *Ermengem*). If an extract of the meat is made with water and the bacteria removed from the latter by filtration, the fluid shows characteristic toxicity for animals. This may be used for determining the presence of botulism toxin in suspected meat. The guinea-pig is the most susceptible animal. The spores of the bacillus are relatively susceptible to heat, being destroyed by a temperature of 80° C. for one hour.

According to v. Ermengem, the bacillus does not proliferate in the body, nor does it produce toxin vigorously at body temperature, hence he considers it to be a strict saprophyte—a pathogenic saprophyte.

The toxin is taken up by the circulation from the alimentary tract and is not destroyed by the gastric and pancreatic juices, differing in this respect from the toxins of diphtheria and tetanus. It is prepared artificially by growing the organism anaërobically in suitable bouillon and subsequently sterilizing the fluid by filtration. Like the other soluble bacterial toxins, it is susceptible to the action of air and light, and is destroyed by a temperature of from 60 to 70° C.

Pathogenesis.

That the toxin has a special affinity for the nervous tissues is evident from the symptoms of the disease. An emulsion of nervous tissue when mixed with the toxin absorbs or neutralizes it and the ganglionic cells are found to be degenerated in fatal cases of infection. The toxin, however, appears not to be so selective in its action on the nervous tissue as the toxin of tetanus, for in botulism degenerations of the glandular organs, and of the vascular endothelium with consequent hemorrhages are characteristic anatomic findings. On the basis of clinical evidence man is very susceptible to the intoxication. Dogs, rats, and cats are relatively immune. The toxin is pathogenic by subcutaneous or intravascular injection.

According to v. Ermengem, the bacilli when inoculated subcutaneously do not proliferate, but are taken up by the phagocytes immediately or after they have been carried to other organs. Animals which have recovered from infection or which have been immunized, acquire rather strong immunity to subsequent inoculations, the immunity being antitoxic.

***Prophylaxis* and Antitoxin.**

The prophylactic measures consist in the avoidance of poorly preserved and improperly cooked meats, especially sausages. Botulism would seem to be very rare in this country where raw meats are not used extensively.

The antitoxin (Kempner) has proved of some value in animal experiments but its commercial preparation has not been warranted on account of the rarity of the disease.

BACILLUS PYOCYANEUS.

Pathogenic Properties.

For a long time it was thought that the "bacillus of blue pus" was of no importance as an infectious agent for man although its pathogenicity for animals had been recognized experimentally. It is found with some frequency in the blood and organs of man at autopsy, when death has resulted from some other infection or chronic disease; in such instances it is supposed that a so-called "agonal invasion" by the organism has occurred. During recent years, however, several cases of primary pyocyaneus septicemia have been observed, the bacillus having been obtained from the blood in pure cultures during life or from the blood and organs shortly after death. It has been found as the sole organism in meningitis and vegetative endocarditis. Some of the cases indicate, however, that a previous lowering of resistance, as in tuberculosis and syphilis, is important for general invasion by the bacillus. It has been found several times in suppurative processes in the middle ear, and would seem to be either the cause or a strong adjuvant in some cases of severe enteritis, especially in children. In systemic infections, the symptoms are typhoidal in character with high temperature, diarrhea and a tendency to the formation of hemorrhages in the skin and internal organs.

Its Manifold Activities.

The *Bacillus pyocyaneus* is widely distributed and that it causes so few infections is probably due to its low pathogenic power. It is an organism of manifold activities. It produces a substance which when exposed to the air, assumes a bluish tint, on which the color of the pus depends. This substance, pyocyanin, is soluble in chloroform from which it may be precipitated in crystalline form. Under proper conditions the organism also forms a fluorescent pigment. **Ferments.** It produces a strong peptonizing ferment and coagulates milk. It is rich in autolytic ferments, which digest the bacilli in old cultures. As stated in a previous chapter, Emmerich and Löwe have identified a bacteriolytic ferment, pyocyanase, which dissolves the anthrax bacillus and other organisms. The ferment nature of this substance is in some doubt; it resists the boiling temperature. Dietrich thinks its action is due to the production of osmotic changes. **Toxin and Endotoxin.** It secretes a true soluble toxin for which it is possible to obtain an antitoxin, and has in addition an endotoxin for which an antitoxin cannot be obtained. Old cultures contain a hemolytic agent (pyocyanolysin) of an alkaline nature, which resists boiling and is not a true toxin, since immunization with it does not yield an antitoxin.

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[1] Other pathogenic organisms, especially *B. enteritidis* and *B. coli communis*, and recently the paratyphoid bacillus, have been found in poisonous meats. The term botulism formerly was applied to various forms of meat poisoning.

The soluble toxin of *Bacillus pyocyaneus* is not produced in large amounts. It differs from the other soluble toxins in its resistance to heat, withstanding a temperature of 100° C. for five minutes. It produces the symptoms which are characteristic of infection with the living organism, the principal anatomic changes being parenchymatous degenerations and ecchymoses, the latter supposedly being due to degenerative changes in the endothelium of the vessels.

Antitoxic and Bactericidal Serums. By immunizing with young cultures grown on an agar surface a serum which is purely bactericidal is obtained. On the other hand if an older toxin-containing bouillon culture be used, the serum is both bactericidal and antitoxic. The serum which is purely bactericidal has no power of neutralizing the toxin. The toxin solution contains not only the true toxin but also quantities of the endotoxin which were liberated as the dead bacilli were dissolved. On this account the antitoxin fails to destroy the toxicity of the toxin solution completely, and this becomes manifest when to a multiple of the single fatal dose, a corresponding amount of antitoxin is added. Under the conditions a fatal amount of endotoxin may be present even though the true toxin is completely neutralized. Although a strong antitoxin may be obtained it would appear to be of little practical importance because of the rarity of infections by the bacillus.

Agglutination. Infection in man has caused the formation of agglutinin in several instances, but it has been absent in others. An agglutinating serum is readily produced by artificial immunization.

HAY FEVER.

Dunbar separated from the pollen of various grains a toxin which is able to precipitate typical attacks of hay fever in those who are susceptible, having first demonstrated that the crude pollens cause the disease. The pollen from the following are said to contain the toxin: Rye, barley, wheat, maize (corn), dog's tail, couch-grass, millet, rice and some others. The so-called autumn-catarrh which is common in America may be due to a slightly different toxin coming from the golden-rod or other autumnal flowering grains.

The Toxin. The toxin usually is associated with certain starch-like granules which are contained in the pollen, but it occurs also in pollens which do not contain these granules. It may be extracted with water or salt solution; it is precipitated by alcohol, resists the boiling temperature, and is of an albuminous nature.

Pathogenesis. When the crude pollen reaches the conjunctiva, nasal or bronchial mucous membranes, the toxin is dissolved out by the secretions and absorbed by the lymphatics. When applied to the conjunctiva it causes swelling, redness and lachrymation. It is carried by the tears to the nose and here causes excessive secretion, swelling of the mucous membrane and sneezing. It may become distributed, systemically as a result of absorption from the free surfaces and cause the asthmatic attacks and general symptoms which are seen in the intoxication. When injected subcutaneously into the arm both the asthmatic attacks and coryza-like symptoms were produced.

Antitoxic Serum (Pollantin.) Dunbar's antitoxic serum (pollantin) is obtained by the immunization of horses with the toxin. It seems to be of undoubted value in a certain percentage of cases, but fails unaccountably at times. It is, perhaps, most effective when used in the prodromal stage, the attacks being thereby prevented. Its failure in certain instances may be due in part to variations in the efficacy of the antitoxin against the toxins of certain pollens. Again in certain individuals the affinity of the toxin for the tissues may be unusually great so that a more vigorous use of the remedy might have effected improvement.

Lübbart and Prausnitz published statistics of 285 cases of which 65 were autumnal. In ordinary hay-fever the serum gave positive results in 57 per cent., partially positive in 32 per cent. and negative results in 11 per cent. of the cases. In autumnal catarrh, 70 per cent. were positive, 19 per cent partially positive, and 11 per cent. negative.

The small bottles of antitoxin are accompanied by a pipette with which from one to several drops may be instilled into the eye or the nose.

The serum does not cure permanently and one who is susceptible should carry a vial for immediate use during the hay-fever season.

SNAKE-VENOM.

The poison apparatus of snakes consists of a secretory gland on each side which communicates with the tubular fang by means of a duct. In the passive state the fangs are directed backward on the roof of the mouth, but when the animal strikes their points are made to project forward and the poison is forced through the canals by muscular compression of the sac. The venom is a glandular secretion.

Toxic Constituents. The venoms of different snakes vary a great deal in their toxic properties. The most important constituents are those which attack the nervous system (neurotoxin), the blood corpuscles (hemolysins and hemagglutinins) and the endothelium of the blood vessels, causing hemorrhages (hemorrhagin, an endotheliotoxin. The three are independent.

The neurotoxin causes death by paralysis of the cardiac and respiratory centers. The hemolysin appears to be of less importance as a cause of death.

Variations in Toxic Properties and Cytotoxins. The venoms of the cobra, water-moccasin, daboia and some poisonous sea-snakes are essentially neurotoxic, although they have strong dissolving powers for the erythrocytes of some animals. In studying the hemolytic powers of the venoms of cobra, copperhead and rattlesnake, Flexner and Noguchi found cobra venom to be the most hemolytic and that of the rattlesnake the least. They attribute the toxicity of rattlesnake poison chiefly to the action of hemorrhagin. The same authors studied the action of different venoms on the cells of various animals and by absorption experiments found independent cytotoxins for the testis, liver, kidney and blood. Not only was there a distinct cytotoxin for each organ of an animal, but also for the same organ of different animals, results which speak for a remarkable complexity of venom. Certain venoms contain a leucocytic toxin.

Ferments. That venoms contain proteolytic ferments is shown by their ability to digest gelatin and fibrin. This power may be related to the softening of the muscles which has been noted clinically in cases of poisoning. The rapid decomposition of the body which follows death by snake-poisoning is associated with a decrease in the bactericidal power of the blood, which, according to Flexner and Noguchi depends on fixation of the complement by the venom.

Amboceptors and Complement. The hemolysin and neurotoxin, and perhaps other cytolysins of venom, consist of amboceptors which in themselves are non-toxic; they become toxic only through the aid of complements which are present in the body of the poisoned animal. In this instance, complement which usually is a source of protection becomes a source of danger to the animal possessing it. Not only does ordinary serum-complement serve for activation, but Kyes discovered that cells (erythrocytes) may contain another kind of complement, an "endocomplement," which activates the amboceptors after the latter have combined with the cells. Flexner and Noguchi found that this also was the case with the neurotoxic amboceptors.

Cobra-lecithid.

Kyes showed that the endocomplement of erythrocytes which activates the hemolytic amboceptors consists of lecithin, and in the reagent glass was able to bring about chemical union of the hemolysin and lecithin: the product is called cobra-lecithid. A solution of lecithin in chloroform is shaken for several hours with a dilute solution of venom. During this time the hemolysin has combined with the lecithin, and when the chloroform is drawn off and mixed with either, the cobra-lecithid comes down as an amorphous precipitate. It may be further refined but its exact chemical nature appears to be undetermined.

This treatment accomplishes another important result in that the hemolysin is separated quantitatively from the neurotoxin, the latter remaining in the watery solution. Immunization with the neurotoxin isolated in this way causes the formation of a specific antineurotoxin (Elliot.) The neurotoxin may also be abstracted from the venom by treating the latter with the nervous tissue of a susceptible animal (Flexner and Noguchi.)

The hemolysin is distinct from the hemagglutinin and the latter may be eliminated by treating the venom to from 75° to 80° C. In the action of venom on erythrocytes agglutination precedes hemolysis.

Toxoids and Antivenins.

The toxins may be converted into toxoids by heat or treatment with chemicals. Immunization with toxoids causes the formation of antitoxins. Radium is said to destroy the toxicity of venom (Phisalix). The antivenin of Calmette is obtained by the immunization of horses with a mixture of venoms (80 per cent. cobra, 20 per cent. viperine venom) which are attenuated before injection. Six months are required to produce a strong serum. The claim of Calmette that his serum is effective against all snake-venoms is erroneous. It neutralizes those venoms the toxicity of which depends largely on neurotoxins and hemolysins, but has little influence on rattlesnake poison the essential toxin of which is hemorrhagin. Antivenin for the rattlesnake and water-moccasin may be prepared by immunization with the corresponding venoms which have been attenuated by weak acids. Noguchi has produced serum of such strength that it promises to be of practical value in the treatment of rattlesnake bites.

As indicated previously, the action of venom is preceded by no appreciable incubation period, hence an antitoxin to be effective must be administered not later than a few hours after the bite has occurred. Noguchi found in relation to antivenin for the rattlesnake that the antitoxin necessary to save was quadrupled three hours after intravenous injection of two fatal doses of venom. Fortunately the venom is less toxic when introduced subcutaneously.

Clinical Reports

FIVE CASES OF PFEIFFER'S GLANDULAR FEVER ("DRUESENFIEBER").

HELIODOR SCHILLER, M.D.,
CHICAGO.

INTRODUCTION.

During the latter part of April and May, I saw five cases of the so-called "Pfeiffer's *Druesenfieber*," or as Neuman called it—idiopathic swelling of the glands of the neck. All these cases lived in the same ward of the city, and several physicians told me that they had similar cases at the same time. Hence I am justified in speaking of a real epidemic of "Pfeiffer's *Druesenfieber*."

NARRATION OF CASES.

I shall select and describe three of my cases, and will then endeavor to draw some conclusion concerning the character, the pathology and course of this not at all well-known disease.

Case 1.—April 6 I was called to visit a girl 12 years old. The mother told me that the child had complained of chills and headache the day before and the following morning of a pain in her throat. The evening before they had perceived a swelling on both sides of the neck.

Examination.—I found the temperature 101.8 degrees, the pulse 108. The tonsils were red and somewhat enlarged. The whole throat was red and on the right arcus palatoglossus was a yellow spot the size of a pea surrounded by a red arc which looked aphthous. The glands on the right side of the neck were somewhat enlarged; those on the left swollen to the size of an apricot, especially the glands on both sides of the proximal part of the sterno-cleido-mastoideus, and there again the posterior ones were very much swollen, of rather hard consistency and not very tender. There was no exanthema on the skin or mucosa of the mouth nor was there a scarlet tongue. A smear and culture taken from the above described spot showed streptococci. There was pronounced breathing through the mouth. The mucosa of the anterior part of the nose was red but otherwise normal. The heart, lungs and other organs were found normal. The general condition of the patient was not impaired. Urine was normal.

The whole picture, while apparently that of nothing else than a streptococcus angina, nevertheless looked different than this disease in that the rather sudden and immense swelling of the glands with rather mild changes in the throat and the small tenderness of the glands clearly pointed out that we had more than a common sore throat to deal with.

Course of Disease.—On the following day the symptoms were still milder. The highest temperature was 101 degrees; the pain in the throat had lessened, the neck hurt only in moving, but the swelling of the glands, while larger, was, however, not more painful.

The third day brought somewhat higher temperature, 102.4 degrees, pulse 96. The redness in the throat and the yellow spot had nearly disappeared. The spleen and liver could be felt enlarged. The size of the swelling of the glands was the same. The child felt very well, although an obstinate constipation caused some trouble. The urine was found normal.

On the fourth day the highest temperature was 99.8 degrees. On the fifth day 101 degrees. The swelling of the glands, concerning mostly the glandulæ cervicales, but also the jujulares, was a little larger than a boy's fist.

On the sixth day the highest temperature was 100.2 degrees. On the seventh day the mother called me and said she thought her daughter must have matured in that the urine looked bloody. The napkin which was applied, however, did not become stained. The examination of the urine showed 0.2 per cent. albumin, many white and red blood cells and some blood casts. The amount of urine during the next twenty-four hours was six ounces. It was of a reddish color, showing the typical microscopic picture of a most acute hemorrhagic nephritis. On the eighth day the temperature was 103.2 degrees. The spleen and liver were very much enlarged and soft. The abdomen was somewhat tender, the mucosa of the throat normal.

The glands on the right side were a trifle smaller, but those on the left more swollen and more tender, but still hard. A somewhat sero-purulent discharge of the nose appeared. The general condition and appearance of the patient was rather good. The microscopic examination of the discharge from the nose showed diplococci and streptococci, but neither diphtheria nor influenza bacilli. The patient was lively and did not complain much.

The ninth day did not bring much change. Eleven ounces of urine of the same nature as before were passed in twenty-four hours. On the tenth day thirteen ounces; on the eleventh day thirty-four ounces, and on the twelfth fifty-two ounces, containing an enormous amount of epithelial blood and granulated casts. The temperature still reached 102.4, the swelling of the glands was somewhat reduced, the consistency hard and tender, but not as much so as swollen glands in case of angina. The spleen and liver were reduced in size. Very obstinate constipation was present, but the general condition of the patient was good.

April 27 the temperature, after a lytic declivity, was normal as was also the urine. The spleen and liver could not be palpated any longer and still the glands were swollen and hard and somewhat tender.

By June 21 the glands were reduced to the size of a bean, but were no longer painful or tender. The glands just behind the proximal part of the left sterno-cleido-mastoideus was the most persistent and is still the largest. The glands on the right side had disappeared entirely.

Case 2.—A boy eight years old, recently arrived from South Africa, lived two blocks south of the first patient. His attack began with fever, headache, weakness, vomiting and slight pain in the neck and throat.

Examination.—When I saw the patient May 10, two days after the onset of the disease, his temperature was 103.8 degrees; his pulse 134. He looked very sick. His tongue was rather dry, the tonsils, and especially the throat, were red and swollen. The glands on both sides of the neck, but especially those on both sides of the proximal part of the left sterno-cledio-mastoideus were very much swollen, of a harder consistency, and somewhat tender. The mother says that the glands were swollen before the boy even complained of the pain while swallowing. No exanthema was present on the skin or mucosa of the mouth.

The microscopic examination of a smear taken from the tonsils showed streptococci and bacilli, which seemed to be Pfeiffer's influenza bacilli. No diphtheria bacilli could be seen. No culture was made in this case.

Course of Disease.—During the next five days the temperature fluctuated between 102 and 105 degrees, and the pulse between 118 and 142. The spleen and liver became rapidly enlarged, the abdomen tender, the glands on the neck swelled to the size of a medium large orange, and the single glands could easily be isolated and felt. A mouth breathing and obstinate constipation could be observed. The heart and lungs were found normal; the urine also normal.

On the fifth day the urine became bloody and on the sixth day showed all symptoms of an acute hemorrhagic nephritis. The amount of urine during the next twenty-four hours was eight ounces; on the seventh twelve ounces and on the eighth sixteen ounces. The temperature on the morning of the eighth day fell to 101 and rose in the evening to 104 degrees. The pulse varied between 118 and 140 degrees. Constipation and mouth breathing continued. The throat, however, was normal again. There was some seropurulent discharge from the nose containing influenza bacilli. The spleen and liver were still very much enlarged and one and a half inches below the arc of the ribs inpalpable. The general condition was rather serious. The patient had no appetite and refused all nourishment. Gradually the condition of the urine became better, but the swelling of the glands remained the same. The fever did not disappear; on the contrary increased to 105.1 degrees May 26. The tenderness of the swelling on the left side increased, while the swelling on the right side gradually disappeared. In spite of the fact that no fluctuation could be felt, and that the glands felt rather hard, a trial puncture was made, and in a depth of nearly one and one-half inches pus was found. Along the needle an incision was made and a deep abscess opened and about two teaspoons of thick pus removed and drains applied.

The pus contained pure cultures of influenza bacilli. Nevertheless the fever and swelling of the glands did not decrease. In fact the condition of the urine became worse at times. The fever did not disappear until June 11. The urine contained albumin until June 5. At present the glands have their normal size.

Case 3.—A girl eleven years old and living one block south of Case 1, fell sick May 23. Her case also started with chills, pain in the abdomen, neck and throat. Shortly after the beginning of the disease the mother observed a swelling on the neck.

Examination.—I saw the child the same afternoon and found her temperature 102.6 degrees, her pulse 118. The tonsils and mucosa of the throat were red and the glands of the left neck, especially the cervicales, were greatly swollen and somewhat tender. There was no exanthema. A smear taken from the tonsils showed staphylococci, diplococci and influenza bacilli, but cultures made two days later did not show influenza bacilli.

Course of Disease.—For three days the temperature stayed between 102 and 104 degrees and disappeared lytically. On the seventh day the temperature was normal. The swelling of the glands stayed for two weeks. The spleen and liver were swollen, but no albumin was found in the urine. Constipation was not so marked in this case, but breathing through the mouth and discharge from the nose was evident. The other two cases were on the same order as case three; but no influenza bacilla were found.

RESUME OF CASES.

A short résumé of these three cases shows us that this disease begins with chills, headaches, fever, sometimes vomiting, pain in the throat, and that there follows, shortly after the onset of the disease, swelling of the cervical glands, and especially of the glands behind and before the proximal end of the sterno-cleido-mastoideus; that the disease is accompanied by fever, and in severe cases acute hemorrhagic nephritis occurs in the early stages, that is, from the fifth to the eighth day; the spleen and liver become enlarged, the swelling and redness of the tonsils and throat disappear rapidly after from three to five days, while the swelling of the glands stays for weeks. The tumor of the glands has a rather characteristic form. There is no marked periadenitis. Each gland can be palpated separately. The glands feel rather hard and not very tender; the tenderness cannot be compared with the tenderness of glands accompanying tonsillitis. No exanthema is found on the skin or in the mouth.

DIAGNOSIS.

Diphtheria could be excluded as could also tuberculosis, as the whole course of the disease pointed against tuberculosis infection in that the glands disappeared soon entirely, a thing which does not occur in a case of tuberculosis after an elapse of only a few weeks. The picture of this disease is so entirely different than that of tonsillitis or any other disease in the throat that it would be useless for me to mention all the differences. We have here the picture of a general infection, a sepsis, starting from some place in the throat, then quickly involving the cervical glands of the neck and in turn the whole body with acute tumor of the spleen and liver; and in severe cases with most acute nephritis. Glands other than those of the neck have not been found involved.

Some authors claim that the tenderness of the abdomen is caused by the swelling of the mesenterial glands, but as postmortems are lacking, we cannot confirm this statement. We do know, however, that in typhoid fever the enlarged mesenterial glands do not produce a marked tenderness.

Each of these three cases had somewhat enlarged hypertrophic tonsils. In three of these case I found in a previous examination the nasopharyngeal space full of adenoid vegetations.

There is no doubt that the infection starts either from the throat, tonsils or the nasopharyngeal tonsil without causing any pronounced local affection except a local redness. The involved glands speak more for the latter place.

The microscopic examination in one case showed streptococci; in another, influenza bacilli, as well in the nose and throat as in the pus of the glands; while the third showed staphylococci, streptococci and influenza bacilli in the throat.

I am sorry to say I could not make any blood cultures, as in private practice such things are not easily possible. While there is no doubt as to the nature of the disease and the place of infection, there has been nothing definite found that would give us an idea as to the cause. Further clinical examinations will in all probability throw a light on this. The presence of influenza bacilli is certainly very interesting. They would at the same time easily explain the epidemic character of the disease and the rarity of suppuration.

Not one of my cases was deadly, nor did a death occur among the several cases reported in the literature, in spite of the fact that the character of the disease in some of them was very serious.

Some authors lay stress on the constipation, believing that the infection occurred from the intestines. This, however, was at the time when the intestines were accused of everything during childhood.

The treatment applied was innunction with Credé's ointment and treatment of the accompanying nephritis.

This should only be considered a preliminary report. In the near future we hope for more detailed reports from physicians who have hospitals near at hand with better opportunities for closer examinations and clinical investigations.

FRACTURE OF PATELLA.

RESTORATION OF FUNCTION IN SPITE OF NON-TREATMENT.

J. B. CUTTER, M.D.

Surgeon in Charge Santa Fe Coast Lines Hospital.
ALBUQUERQUE, N. MEX.

J. L., Mexican, laborer, aged 40, entered Santa Fé Hospital April 17, with fracture of left patella at lower one-third.

After remaining in bed until April 20, when the extreme effusion had somewhat subsided, on being told of the length of time necessary for repair, entailing several weeks' confinement to bed, the patient precipitately left the hospital, refusing further treatment or advice.

On May 23 he again presented himself at the hospital for the necessary certificate of discharge for reinstatement in his position. The leg had been in constant use in the interim. No effort at treatment or immobilization having been made.

In the absence of effusion, the deep sulcus separating the fragments was clearly demonstrated, the distance between the fragments being about three-quarters of an inch, with apparently a thin band of ligamentous union present. The function, however, was remarkably good, there being almost complete extension and no inconvenience in walking.

The question naturally arises, how much or how little advantage is gained by the conventional period of rest in the recumbent position, usually prescribed in the expectant or non-operative method of treatment of fracture of the patella?

EXOMPHALOS SUCCESSFULLY OPERATED ON.

I. F. HICKS, M.D.

DUNN, N. C.

Umbilical hernia occurs in three different forms:

1. The umbilical hernia of infants and young people, due to the weakening of the umbilical cicatrix, which yields before intra-abdominal pressure. This condition rarely persists until adult life and is readily amenable to treatment.
2. The umbilical hernia of adults, usually due to a protrusion of omentum or intestine through an opening in the linea alba either just above or below the umbilicus. This form usually requires operative treatment.
3. The congenital umbilical hernia, or exomphalos, which is an exceedingly rare condition due to the imperfect closure of the abdominal walls, as a result of which the intestine is not entirely withdrawn into the abdomen at birth, but is found in a cavity at the base of the umbilical cord, which is bulbous and enlarged. If the condition is overlooked it may be included in the ligature with which the cord is tied, causing fatal strangulation or a fecal fistula at best. If left untreated until the cord is separated, the peritoneal cavity will be laid open and septic peritonitis will ensue. The only treatment is immediate laparotomy, reduction of the intestine and closure of the umbilical opening by sutures.

Exomphalos is subdivided into different forms by some authors, the classification depending on the degree and amount of intestine protruded. The case reported in this paper was one of the most serious, the hernia being strangulated, invaginated and irreducible.

History.—The infant was assisted into this world by an old midwife, who had the good judgment, however, to tie the cord above the enlargement. Strange to say, the cord did not separate until the twelfth day, leaving the knuckle of intestine unprotected. The wise old midwife told the parents the condition was not uncommon, that she often treated them and ordered that the tumor be covered with a vaselin cloth until it "dried up." The hernia grew larger every day, but Nature came to the rescue of the infant by adhesions taking place between the outer layer of intestines and the edge of the umbilical ring, thus closing in the abdominal cavity; invagination continued to take place, however, by means of the inner coil of intestine forcing itself outward until strangulation and adhesions took place between the layers of the invaginated portion.

Consultation.—About the fifteenth day, two fecal [illegible] were found, one at either end of the T-shaped protrusion. Dr. S. P. J. Lee was called in on the seventeenth day, and requested Dr. O. L. Denning and myself to assist him [illegible] this we did on the eighteenth day.

Operation.—On examination, the invagination was found to be irreducible and strangulated from constriction at the umbilical ring, so the adhesions at this point were broken and a laparotomy performed. About six or eight inches of the [illegible] were resected and the divided intestine was fixed by [illegible]orrhaphy and simple suturing, i. e., the ends were brought together and stitched with Lembert sutures. After this the mesentery was stitched where a V-shaped portion had been removed; the intestines were replaced and the operation completed by stitching the peritoneum and closing the abdominal wall. The bowels were kept locked by opiates for six days when the infant had a natural evacuation, and [illegible] had an uneventful recovery.

This case is reported on account of its rare [illegible] the almost universally fatal termination. The [illegible] ing this operation, which was done under [illegible] stances, should be an incentive to others not to [illegible] as long as life exists in the patient.

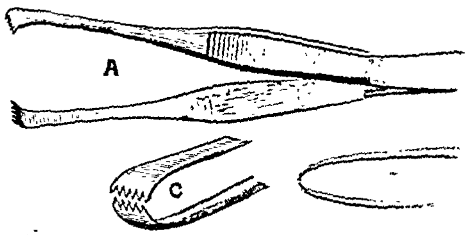
New Instrument

THE COLUMBIA TISSUE AND IN[illegible] FORCEPS.

I. S. STONE, M.D.

WASHINGTON, D. C.

The accompanying cut shows a [illegible] forceps for general and special [illegible] been used at the Columbia Hospital [illegible] have heretofore been made to order [illegible] do not appear in any instrument [illegible] been described, as far as I know. [illegible]



in pelvic work, especially [illegible] not easily puncture the [illegible] In fact, they are like the [illegible] handling *without* injury. [illegible] teeth, allowing plenty of [illegible] portions of muscle or fa[illegible] the abdomen. They are [illegible] ceps can be made as [illegible]

Apocynum Canna[illegible] liver, in jaundice. [illegible] lowish skin, with [illegible] peculiarly happy [illegible] tions it is almost [illegible] liver, secures a [illegible] an efficient [illegible] lagogue.—G. S. [illegible] *Gazette.*

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to go below the surface of the things with which they are dealing. In his address before the Congress of Arts and Science in St. Louis last fall, Theobald Smith discussed certain phases of microbic parasitology from the broad biologic or comparative point of view in a way that can not but interest many physicians and place more or less familiar phenomena in a new light.[1]

In the first place, Smith points out a phase in the life history of pathogenic microbes that has not received much consideration, namely, that in order to preserve the species in accord with general biologic laws, microbes as they adapt themselves to parasitic life gradually eliminate aggressive weapons, such as free toxin production, which may have been an entering wedge, because they are of no direct benefit to them, inasmuch as destruction of the host lessens their opportunities to perpetuate themselves. In support of this view, it is pointed out that strictly invasive bacteria—tubercle bacilli, typhoid bacilli, glanders bacilli, etc.—do not produce diffusible toxins, the injury, often largely local, produced by these organisms being caused rather by poisons set free on disintegration of their bodies, whereas the toxin-producing bacteria—diphtheria bacilli, tetanus bacilli—in reality are not invasive bacteria, but live on the surface of the body, or, as in case of the tetanus bacilli and other spore-bearing organisms, produce disease, so to speak, accidentally, and not as progressive parasites, because their continued existence may be regarded as assured by vegetation and spore formation outside of the body. Microbes that are able to defend themselves against the destructive efforts of the host produce chronic diseases like tuberculosis, leprosy and glanders. Others that lack the means of successful defense are either destroyed or adapt themselves to live on the skin or mucous membranes whence they may, as special opportunities offer themselves, enter the tissues as "occasional disease producers."

In connection with this it is of special interest to note the excellent mechanisms of elimination of many microbes, so far as continuing the life cycle in new subjects and thus perpetuating the species is concerned. In diphtheria, pneumonia, typhoid fever, dysentery, cholera, gonorrhea, influenza, the acute eruptive diseases, etc., the specific organisms either from the beginning or sooner or later reach the surfaces of the body, whence they are passed on to other hosts by different methods of direct or indirect contact. Smith believes also that certain bacteria after a period of active vegetation may pass into a latent stage provided with a protective envelope which enables it to pass to a new host at the same time as the metabolism of the bacterium and consequent diseases are suspended. This hypothesis suggested itself to him as he studied the gradual adaptation of bovine tubercle bacilli to vigorous growth in artificial media; the protective substance being assumptively slowly lost.

Smith explains the fact that the mortality rate of human infectious diseases always show that the odds are against the invading microbe in this interesting way: The more virulent the microbe, the more rapid the death of the host and the less the opportunity for escape. Consequently, there will be a selection in favor of those microbes that vegetate slowly and in tissues situated so that they can escape to new hosts. As this process of selection of the less virulent races, accompanied with the gradual weeding out of the most susceptible hosts, continues, the mortality from infectious diseases falls, without necessary diminution in morbidity. Pasteur's failure to exterminate the rabbits of Australia by means of a highly virulent bacillus of rabbit septicemia may be accounted for by the fact that the stricken rabbits, with their blood full of bacilli, offered no means for inoculating others and hence the virulent race of bacilli perished. We know that the pandemics of influenza soon give way to sporadic cases and now the influenza bacillus seems to play the rôle of a secondary invader in many of the respiratory diseases.

Many other interesting points in this remarkable address can not be recapitulated at this time. We see clearly that the microscopic parasites offer complex problems similar to those of higher forms of life; problems the continued study of which by able thinkers may lead to the formulation of broad generalizations and laws of direct interest to medical men. We believe that Smith has indicated the existence of a law of this kind that will help us to understand better certain aspects of infectious diseases, namely, the law of declining virulence, and hence mortality with an advancing parasitism.

THE SMEGMA BACILLUS AS A DISTURBING FACTOR IN THE DIAGNOSIS OF GENITOURINARY TUBERCULOSIS.

The use of bacteriology by the clinician while of great value is fraught with danger to the uninitiated. In no case is this more true than in tuberculosis, for, when the tubercle bacillus was first discovered it was unique in its tinctorial reactions, and, though other "acid fast" organisms have been discovered since, the knowledge of them has not as yet become widely diffused among the profession. Some of these bacteria occur in diseases which, like leprosy, are rare among us, and so are of no practical importance to the clinical pathologist. A few, like the organisms occasionally found in the sputum in pulmonary gangrene, may be misleading, though very rarely so. One acid-fast organism, the smegma bacillus, may lead to the gravest mistakes in the diagnosis of genitourinary tuberculosis. This organism was first discovered as a result of the investigations which followed the announcement by Lustgarten of his discovery of the cause of syphilis.

Whether or not Lustgarten's bacillus and the smegma bacillus are identical, is still more or less a matter

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[1] American Medicine, 1904, vol. viii, p. 711.

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NERVOUS STRAIN.

It seems to afford a kind of pleasure to this generation to look on itself as the victim of high pressure. We hear much on all sides of the hurry of the time, of the pace that kills, and of the disturbing and demoralizing effects of modern industrialism and commercialism. There is no lack of remedies for the existing order. We are told that we must concentrate, not dissipate, our energies, that we must forsake city life and return to nature in the guise of a $60,000 farm, or at least of a commuter's garden; that we must altogether give up trying to be rich and must rest content with the common lot. It is no wonder that a dazed old lady was heard to remark: "A little while ago we had to live the strenuous life, then it was the simple life, and now it is the equitable life."

Yet the feeling that life for most involves a large measure of struggle and output of nervous energy is not peculiar to our time. Each generation looks back with longing on the calmer life of its predecessors. There are those who think they would prefer the relative absence of "modern conveniences" enjoyed by our immediate forefathers. Mr. Austin Dobson has cast a glamour of sentiment over "stage-coach days" and "teacup times" that almost persuades us that travel by steam and conversation by telephone are the main causes of modern unrest. Seventy-five years ago, however, we find Sainte-Beuve writing with a touch of envy of the earlier and more placid times of Madame de Sévigné, and regretting that "the world moves so fast in our day." So it seems always to have been. The time in which a man lives appears to him full of intense activity, crowded with sense impressions and their appropriate reactions, and he is ready to fancy that his predecessors experienced no such flood of new sensations and were not subject to the wear and tear that he feels so keenly. As a matter of fact, has life ever been really exempt from stress? Someone has remarked that the rival monsters of cretaceous days would probably have expressed the opinion if the opportunity had been granted them that their own age was one of nervous strain.

It is possibly true that we of the present day are more definitely aware of the sources of anxiety and trouble, that we are more alive to the reports received and answers given by the central nervous system and that "strain" is more of a reality to us than to a less subtly molded race. James has somewhere referred to the case of a Russian peasant who, catching his thumb in a cleft tree in the forest and being unable to release himself or to obtain help, pulled his hand away, leaving thumb and tendons behind, much as a wild animal might do. Such an exploit would doubtless be impossible to a more "nervously" constituted individual. The question here is: Are we able to demand from our nervous systems as much as our less civilized progenitors?

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The root of the matter is that neither modern life nor urban life is to be blamed indiscriminately for what is popularly denominated nervous strain. If certain factors at present little studied and poorly understood are tending to increase diseases of a nervous type, they may be found on investigation to be such as lie within the control of the individual more commonly than has been supposed. There is still room for him to consider what the Roman emperor meant who said that even in a palace life may be led well.

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Many other interesting points in this remarkable address can not be recapitulated at this time. We see clearly that the microscopic parasites offer complex problems similar to those of higher forms of life; problems the continued study of which by able thinkers may lead to the formulation of broad generalizations and laws of direct interest to medical men. We believe that Smith has indicated the existence of a law of this kind that will help us to understand better certain aspects of infectious diseases, namely, the law of declining virulence, and hence mortality with an advancing parasitism.

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NERVOUS STRAIN.

It seems to afford a kind of pleasure to this generation to look on itself as the victim of high pressure. We hear much on all sides of the hurry of the time, of the pace that kills, and of the disturbing and demoralizing effects of modern industrialism and commercialism. There is no lack of remedies for the existing order. We are told that we must concentrate, not dissipate, our energies, that we must forsake city life and return to nature in the guise of a $60,000 farm, or at least of a commuter's garden; that we must altogether give up trying to be rich and must rest content with the common lot. It is no wonder that a dazed old lady was heard to remark: "A little while ago we had to live the strenuous life, then it was the simple life, and now it is the equitable life."

Yet the feeling that life for most involves a large measure of struggle and output of nervous energy is not peculiar to our time. Each generation looks back with longing on the calmer life of its predecessors. There are those who think they would prefer the relative absence of "modern conveniences" enjoyed by our immediate forefathers. Mr. Austin Dobson has cast a glamour of sentiment over "stage-coach days" and "teacup times" that almost persuades us that travel by steam and conversation by telephone are the main causes of modern unrest. Seventy-five years ago, however, we find Sainte-Beuve writing with a touch of envy of the earlier and more placid times of Madame de Sévigné, and regretting that "the world moves so fast in our day." So it seems always to have been. The time in which a man lives appears to him full of intense activity, crowded with sense impressions and their appropriate reactions, and he is ready to fancy that his predecessors experienced no such flood of new sensations and were not subject to the wear and tear that he feels so keenly. As a matter of fact, has life ever been really exempt from stress? Someone has remarked that the rival monsters of cretaceous days would probably have expressed the opinion if the opportunity had been granted them that their own age was one of nervous strain.

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Whether or not Lustgarten's bacillus and the smegma bacillus are identical, is still more or less a matter shrouded in mystery, though it seems likely that the organisms are the same. Whether the smegma bacillus represents a single organism is also doubtful, the great variation in morphology suggesting that it does not. The important point to be kept in mind is that the organism is more widely distributed over the body than was at first thought, and that with the ordinary methods of staining it resembles the tubercle bacillus. Of especial importance is the fact that the smegma bacillus is found, often in large numbers, beneath the prepuce in the male, and about the vulva and clitoris in the female, and that from these places it can gain entrance into the urine and thus be mistaken for the tubercle bacillus.

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[1] American Medicine, 1904, vol. viii, p. 711.

Many of the text-books on bacteriology assure us that the smegma bacillus can be differentiated from the tubercle bacillus both morphologically and by its staining reactions. Those who care to look into the voluminous literature of the subject will soon discover that nearly every writer has a method of differentiation of his own, and incidentally states that other methods are of little or no value. The conclusion to be drawn is obvious; none of the reported methods of differentiation are invariably sufficient. While in the majority of cases an experienced bacteriologist can probably differentiate between the two organisms, there are cases in which such differentiation is impossible except by animal inoculation, and even this occasionally fails. This is due to the fact that some smegma bacilli resemble tubercle bacilli and have exceptional resistance to acids, while on the other hand, some tubercle bacilli decolorize with exceptional facility, especially in alkaline urines.

So far as the female is concerned, the difficulty of excluding smegma bacilli is very great, as the shortness and size of the urethra permit their ready introduction into the bladder, and catheterization instead of eliminating the error may even increase it. In the male the danger of large numbers of smegma bacilli getting into the urine is less, though as Young and Churchman[1] have recently shown, this is far from being a negligible quantity. These writers have shown that even the cystoscopic examination may be deceptive in cases simulating tuberculosis clinically and in which there are smegma bacilli in the urine. From the study of a large number of cases, these observers conclude that the danger of confounding smegma and tubercle bacilli in the male can be eliminated by very careful cleansing of the glans, followed by careful urethral irrigation. after which the urine may be passed without danger of contamination. The smegma bacillus invades the male urethra in but small numbers, and is not found in the normal posterior urethra or bladder. It is in patients with small numbers of tubercle bacilli in the urine, however, that a certain diagnosis is most necessary, and the method of Young and Churchman seems to make this possible.

YELLOW FEVER.

The yellow fever situation in New Orleans became rather serious during the week. Up to August 1 there had been reported 304 cases, with 62 deaths. Unfortunately the disease has spread to three points in the new American quarter of the city and to at least three outside parishes. Alarmed residents are leaving for the north, and the city's commerce is at a standstill on account of quarantines. As not all newspaper tales are to be believed, possibly no credence is to be given to that one which lends a ray of humor to the otherwise grave plight of the city, and which alleges that to combat the infected Louisiana mosquitoes Governor Vardarman of Mississippi has ordered the state artillery to the Louisiana frontier. In one of the reports of the Board of Health there appeared the significant statement that it seems probable that yellow fever has existed since May among those Italians so ignorant that they do not call a physician when ill. The difficulties met by the health authorities in the way of cleaning up ancient, overcrowded dwellings and caring for their infected, poverty-stricken inhabitants are tremendous. The business men are circulating a petition asking that the United States Public Health and Marine-Hospital Service be requested to assume full control of the situation. As noted last week, a most commendable harmony of effort prevails as between the local, state and federal officials. A remarkable and relentless popular war is being waged against the mosquitoes, the community having with unusual readiness accepted the new etiology of the disease. Under the conditions existing in New Orleans, stamping out the epidemic will be a great sanitary triumph. Medical men everywhere have strong sympathy for those physicians actively engaged in the conflict.

ANOTHER INSANITARY CONDITION.

The *Scientific American* calls attention to the danger attending the wearing of adulterated leather. A large amount of cheap leather is weighted with glucose and barium, especially the latter, so that when the weight test is applied such adulterated leather may pass as first-quality material. Leather so treated, however, has the peculiar quality of absorbing moisture freely and retaining it to an extreme degree. The result is that a shoe made of this chemically-treated material is in actuality never dry. Even in the driest weather the perspiration of the feet is sufficient to render the footwear dangerous, as such natural moisture collects on the inner sole. Day after day, it seems, some new point is brought up concerning which commercial enterprise makes it necessary for the physician to be on his guard.

A WARNING.

We find it necessary again to warn members and subscribers not to pay money to unauthorized persons. Some physicians in Iowa report payment of money to one W. H. Taylor, who is not an agent of The Journal. Each agent of The Journal who is authorized to make collections carries a letter written on Journal paper introducing him by name and stating that he is authorized to receive money. This is duly signed and bears the official seal of the American Medical Association.

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[1] Amer. Jour. of the Med. Sciences, July, 1905.

SANITATION AND SUBSISTENCE AT PANAMA.

Important as is the reformation of the sanitary conditions on the Panama Isthmus, a corollary well worth all serious attention is the feeding and housing of the large body of working men soon to be engaged there. The *Army and Navy Journal* makes a very sensible suggestion, that, inasmuch as it was a logical step to turn over the matter of sanitation to the Medical Department of the Army, it would be appropriate also to give to the subsistence department the care of the vast number of employes. Experience in the Philippines indicates the ability of this department to accept such a problem. Our contemporary referred to above declares that the army ration used in the Philippines is equal and possibly superior to that of any other army in the world. It is certainly not desirable to have the feeding of our Panama laborers farmed out, with the caterer's profit and not the health of the employes the first consideration. The suggestion is a good one.

SURGICAL PRACTICE ON THE LOWER ANIMALS.

It is reported that one of the leading medical schools of the East has adopted the plan of using the lower animals for surgical practice by students and that the method is found to have some decided advantages over the use of the cadaver for this purpose. Of course the anatomic conditions are not the same, but operating on a living animal will require the same conditions of asepsis and technic as would be adopted with a human being, and is, therefore, more instructive to the incipient surgeon. So far as possible all the formalities that are observed with the human being are practiced, clinical histories are kept, effects of anesthesia are noted and in case of a death of the subject a formal autopsy is made and added to the records. We do not see why this is not a thoroughly rational method of instruction and we will not be surprised to see it adopted by many other institutions. Of course, it need not entirely displace operations on the cadaver. The two methods can usefully supplement each other. When we consider how many valuable surgical operations have previously been tested on the lower animals before they were first attempted on the human subject it is a little surprising that this method of instruction has not been earlier and more generally adopted.

A FAMILY TRAGEDY.

The following is a true tale of a recent happening in an American city. It is a good story to relate to patients and legislators in the campaign against nostrums and against adulterated foods and drugs. A respected clergyman fell ill, and the family physician was called. After examining the patient carefully, the doctor asked for a private interview with the patient's adult son.

"Harry," said the doctor, "do you know what is the matter with your father?"

"No. We sent for you to tell us that."

"Well," the physician said, "I am sorry to tell you that your father undoubtedly is suffering from chronic alcoholism."

"Chronic alcoholism! Why that's ridiculous! Father never drank a drop of liquor in his life, and we know all there is to know about his habits."

"Well, my boy, it's chronic alcoholism, nevertheless, and at this present moment your father is drunk. How has his health been recently? Has he been taking any medicine?"

"Why, for some time, six months I should say, father has often complained of feeling unusually tired. A few months ago a friend of his recommended 'Peruna' to him, assuring him that it would build him up. Since then he has taken many bottles of it, and I am quite sure that he has taken nothing else."

In this connection it might be added that a very prominent anti-saloon worker, a clergyman, lately said that in shame he was compelled to admit that he had run across indubitable proof that there are ministers of the gospel who receive pecuniary commissions from the makers of alcoholic nostrums whose wares they recommend! Than this there can be no worse form of graft. The time is here for the organized profession to join hands with all other workers and organizations, whether anti-saloon leagues, temperance unions, or courageous anti-nostrum publications, to set a definite limit to the progress of respectable and innocent intemperance.

BRAIN TUMORS AND BRIGHT'S DISEASE.

At first sight there does not seem to be much chance that two such pathologically different conditions as intracranial tumor and Bright's disease could be confounded, and yet the error of mistaking one of these conditions for the other is not very uncommon. After all, the two conditions have many symptoms in common, especially if a brain tumor be in a so-called silent region. In both there may be headache, vomiting, eye changes, and even localizing symptoms, such as unilateral convulsions or hemiplegia. It is true that in certain forms of Bright's disease, those in which there is edema, anemia, and large amounts of albumin in the urine, mistakes are not likely to occur, but in the chronic interstitial form, in which edema may be slight or absent, and in which the urine may contain little and at times no albumin, the matter is not so simple. The differentiation is still further complicated by the fact that in certain cases of nephritis the eye lesions are not those usually associated with Bright's disease. The white patches in the neighborhood of the macula, the retinal hemorrhages, the vascular changes, in short, the lesions described as albuminuric retinitis, may be absent, and in their place the choked disc so commonly associated with intracranial pressure may occur. The fact that choked disc is not so very common in nephritis has hardly yet been realized by the majority of practitioners, though it was emphasized many years ago in this country by Burr, and has recently been called attention to by Bramwell.[1] The fact of the matter is that we are too apt to make our diagnoses on a few prominent symptoms, and if these are very apparent we often allow them to lull us into a state of diagnostic security, and fail to carry out a routine examination. All the facts in a given case must be considered before a definite conclusion can be reached when there is a question between the two conditions mentioned. Not only the presence of albumin and casts in the urine, but also its daily amount, its color, and its specific gravity are of importance. In just those cases of Bright's disease in which the urinary findings are difficult of interpretation we are apt to get marked cardiovascular changes, thickened vessel walls, high arterial tension, and hypertrophy of the left ventricle. The optic changes can often be differentiated by an expert, but even the elect have been deceived at times. The character of the headache may be of value; as a rule it is not so severe in Bright's disease as in brain tumor, and often is not so sharply localized. Still, there are cases of Bright's disease with localized headache, and even with localized tenderness on percussion. The age of the patient is important, as cirrhosis of the kidney is relatively infrequent in the young. The point to be remembered, as Bramwell justly remarks, is never to make a diagnosis of brain tumor until Bright's disease has been excluded. As we have pointed out before in these columns, and the fact can not be too often stated, the successful diagnostician is not he who generalizes from the salient points in a case, but he who studies every detail and reaches a conclusion only after a careful and exhaustive study of all the attainable facts. There are many more mistakes due to carelessness than there are due to ignorance.

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[1] Clinical Studies, vol. iii, part 2.

MEDICAL TEMPTATIONS.

The mails regularly bring to physicians an unusual number of opportunities to make "good money" without any effort. Thousands of dollars are thus spent for printing and postage. Does it pay? If not, why does the deluge keep on coming? It is to be feared that among ill-educated and unsuccessful physicians there are always some who grasp at every such chance. The form of these appeals to cupidity or to discouragement frequently runs: "We desire to secure a representative physician in your locality who will become associated with us as a specialist for the treatment," etc. "The special advantages of this treatment can be secured for his private practice by one physician in your locality." Through "an advantageous business arrangement," other physicians are permitted to furnish patients. Eminent men, some with the degree of D.D., furnish a very large proportion of the usual "testimonials." Of course the business is conducted on "thoroughly ethical lines," and "the management is on a strictly business basis." "Special medicines" of unknown composition are to be administered by the favored medical victim of this form of nostrum swindle. Nearly always it is an incorporated company that handles these affairs nowadays. The impersonality of the corporation is so convenient. As the education of physicians improves and as organization brings us into closer touch one with another, there will be less and less chance for success in appeal to medical men to throw away their scruples and for mere money to engage in projects of questionable morality. In the meantime it is not a bad idea to keep reminding ourselves of the various seductive forms in which these unprofessional temptations appear.

Medical News

CALIFORNIA.

New Hospital.—The permit for the erection of the first building of the Samuel Merritt Hospital, Oakland, has been issued, and work on the building, which is to cost $50,000 will soon begin.

Compilation of Health Laws.—The State Board of Health has issued a 28-page pamphlet which contains a compilation of all the health laws of the state, including the laws governing the registration of vital statistics.

Banquet Hirschberg.—The San Francisco Society of Surgeons of the Eye, Ear, Nose and Throat tendered a banquet July 17 to Dr. Hirschberg of Berlin, and to Dr. A. E. Bulson, Jr., Fort Wayne, Ind., secretary of the Section on Ophthalmology.

Personal.—Dr. Curtis C. Falk, Eureka, has been appointed a member of the medical board of the naval militia of California.——Dr. H. Gordon Bayless, Los Angeles, sailed for Europe July 8.——Dr. Fred C. Gerlach has been elected president and Dr. Henry J. B. Wright, secretary and health officer for the San Jose Board of Health.——Dr. W. Harriman Jones, Long Beach, has been elected instructor in gynecology in the Los Angeles College of Physicians and Surgeons.

CONNECTICUT.

Jacobi Addresses Yale Graduates.—The annual address in medicine at Yale University commencement, June 26, was delivered by Dr. A. Jacobi, New York City, whose subject was "The Era of Therapy."

State Board Changes Location.—The office of the State Board of Health has been changed from New Haven to Hartford. At a meeting July 7 Prof. William H. Brewer, New Haven, was re-elected president.

For Tuberculosis Ward.—More than $4,000 has been subscribed for the tuberculosis ward of the Hartford Hospital. The annual expense of maintenance of the ward is $15,000, of which the state provides one-half.

Personal.—On July 1 Dr. Wyeth E. Ray was appointed associate medical director of the Travelers' Insurance Company, Hartford. On July 8 he was also commissioned assistant surgeon, with rank of ensign in the Naval Battalion, N. G., Conn.

Gift to Hospital.—Litchfield County Hospital, Winsted, has received a donation of $25,000, to remain as a permanent fund, one-half of the income of which is to be paid to the donor during his life and the balance devoted to the needs of the hospital.

GEORGIA.

Herb Doctor Fined.—Theo. Pollard, a "herb doctor" of Columbus, was fined $5 or 25 days on the chaingang, for vagrancy, June 9.

New City Hospitals.—The new Brunswick City Hospital was opened to receive patients July 1.——The Americus City Hospital opened for the accommodation of patients May 15.

Colored Professions Organize.—The Georgia Colored Medical Association, whose membership includes pharmacists and dentists, organized at Savannah, July 12. The following officers were elected: President, Dr. Eustace E. Green, Macon; vice-president, Dr. George N. Stoney, Augusta; treasurer, Dr. William F. Penn, Atlanta; secretary, Dr. Palmer Floyd, Savannah, and assistant secretary, Dr. J. A. Moore, Macon.

Personal.—Dr. Lewis M. Gaines, Atlanta, has been made professor of anatomy and physiology in the Medical Department of Wake Forest (N. C.) University.——Dr. and Mrs. W. A. Monnish, Atlanta, have sailed for Europe.——Dr. Obadiah C. Gibson and Miss Gibson, Macon, have started on a trip through the west and Mexico.——Dr. John W. Caldwell has been elected physician for the first district of Augusta.——Drs. Emil Van Goidtsnoven and Arnold H. Lindorme have been sworn in as assistant city physicians of Atlanta.——Dr. Maury M. Stapler, Macon, has sailed for Europe.

ILLINOIS.

Gravely Ill.—Dr. Lewis D. Dunn, one of the oldest and most respected practitioners of Moline, is critically ill.

Fined for Illegal Practice.—John Peattie, Peoria, was fined $100 and costs, July 3, for practicing medicine without a license.——Dr. Davis, Hamilton, was recently fined $50 for practicing medicine in Missouri without a state license.

Hospitals' Funds Grow.—The building fund for the Deaconess Hospital, Peoria, now amounts to more than $11,100.——The recent bazaar held at Aurora for the benefit of the City Hospital netted more than $8,300 in cash for the institution.

Personal.—Dr. Wesselius Davis, Wapella, who was shot in May by Truman Mason, is convalescent, and will soon resume practice.——Dr. Robert C. Bourland, Rockford, has been appointed assistant surgeon, Illinois National Guard, and assigned to the Third Infantry.——Hon. O. J. Bailey, Peoria, has been re-elected president of the Cottage Hospital Association.

Chicago.

Presentation to Dr. Reynolds.—Employes of the Department of Health presented to Dr. Arthur R. Reynolds, retiring commissioner of health, a gold watch, suitably inscribed.

Less Smallpox.—During last week six unvaccinated children were removed to the isolation hospital. No death occurred during the week and 47 patients still remain in the hospital.

The Week's Deaths.—The total number of deaths for last week was 518, equivalent to an annual mortality of 13.57 per 1,000. Acute intestinal diseases caused 112 deaths; consumption, 65; heart diseases, 48; violence, 41; nephritis, 31 and pneumonia, 25.

Health Conditions Again Normal.—There were 105 fewer deaths reported during the week ended July 29, than during the previous week and the annual rate of 13.57 per 1,000 is 17.3 per cent. less for the week and 15.5 per cent. less than the average July ratio of the previous twelve years. This average was 16.06 per 1,000, the highest having been 26.94 in 1893 and the lowest 14.34 in 1900. The rate for the twenty-nine elapsed days is only 13.16 and the month promises the lowest July rate on record.

MARYLAND.

Faculty Meets at Deer Park.—It has been decided to hold the semi-annual meeting of the Medical and Chirurgical Faculty of Maryland at Deer Park, September 21 and 22.

Dying, Forgives Debtors.—Dr. Michael K. Warner, who died in Baltimore July 22, destroyed all his account books before his death, saying that he did not wish anyone to be pressed for debt by his administrators. He had no doubt those would pay who were able to do so and they knew what they owed.

Woman's College Troubles.—A bill asking for the appointment of a receiver for the Woman's Medical College has been filed by Drs. John G. Jay, Joseph T. Smith, Pearce Kintzing and Eugene F. Cordell, former members of the trustees and faculty of the college, and at present creditors of it. These physicians hold notes of the college which the present trustees are said to have refused to recognize or to pay.

Abortionists Sentenced.—Dr. Stephen Crowe and William Ward, alias Dr. Edward Jackson, convicted last month of committing manslaughter by criminal operation, were sentenced on June 30, in the criminal court, to the penitentiary. The former to ten years and the latter to four years.——A woman has also been sentenced to three years in the penitentiary for performing a criminal operation.

MISSOURI.

St. Louis.

New City Hospital.—The mayor, health commissioner and building commissioner visited and inspected the new buildings July 25. It was announced that the patients would be transferred about August 1.

New Frisco Hospital.—Ground was broken last week for the new Frisco System Hospital. It is on Laclede Avenue, near 49th Street. It is expected to cost $175,000. The chief surgeon of the System, Dr. George W. Cale, will take up his quarters at this hospital on its completion, although the old hospital located at Springfield, Mo., will still be used.

New Smallpox Hospital Demanded.—The North St. Louis Medical Society recently discussed the subject of the need for better quarters for patients in quarantine, and a special committee appointed by the chairman presented the following resolutions:

> No effective, general vaccination law exists, and a considerable part of the public seem to be ignorant of the great prophylactic value of vaccination.
>
> Most people, as is well known, dread the idea of being sent to quarantine over rough country roads, in an ordinary ambulance, in zero weather, to an ancient hospital, concerning which all sorts of stories are afloat, and with whose occupants the relatives can communicate by telephone very *indirectly* at best. These people, therefore, in every way contrive to conceal their cases from the health authorities, they and their relatives spreading the disease and remaining a fruitful source of infection.
>
> The method of disposing of the corpses of smallpox patients is antiquated and unsatisfactory.

The resolutions follow:

> That we urge the proper authorities to take the necessary steps to have a new hospital (thoroughly modern and up to date in its equipment), erected on a suitable spot within the city limits, or, if insisted on, at the present quarantine station.
>
> That, in this hospital, wards and private rooms be provided, and those able and willing to do so, be requested to pay for the services; but no tipping of attendants should be permitted.
>
> Well-heated electric car ambulances should be used to convey the patients to the hospital, closed covered stretchers being used to carry the patient on from his residence to the ambulance.
>
> The hospital should be provided with telephones for the convenience of the patient's relatives.
>
> The bodies of patients dying at the hospital should be turned over to the relatives of the dead for burial, after being thoroughly embalmed and disinfected, and placed in a metal, hermetically-sealed casket.
>
> An effort should be made to secure for the entire country a suitable uniform vaccination law.

Health Commissioner in the Courts.—Last week the deposed health commissioner, Dr. John H. Simon, through his attorneys, applied for a writ of certiorari in the Circuit Court. Judge Kinsey issued a temporary restraining order, ousting the temporary health commissioner and re-instating Dr. Simon. Thereupon, the city council appeared in court and asked that the judge amend his order, allowing the temporary appointee to remain in office until the case be fully heard in the circuit court in October. The court took the case under advisement; in the meantime, by agreement among the interested parties, the temporary appointee was allowed to administer the affairs of the department until the court sees fit to stand by or amend his order. The upheaval in the health department has attracted universal attention to the fact that politics is playing too great a rôle in the management of the department. The peculiar nature of the municipal ordinances under which the department operates leaves the destiny of the public health department absolutely in the hands of the politicians. This state of affairs has occasioned a movement to be set on foot by the local physicians to change the old laws and enact new provisions by which the department will be in the hands of a non-partisan board elected by the people, like the school board. In the fall, the medical societies will take up the matter and endeavor to bring order out of chaos.

NEW JERSEY.

Personal.—Dr. Edward Guion of Atlantic City has been elected Health Officer of that city.——Dr. M. L. Somers has been elected Secretary of the Atlantic City Board of Health, vice Dr. Edward Quinn, resigned.——Dr. C. E. Shaffray, house physician at the Alexain Brothers Hospital, Elizabeth, has resigned and will practice in Logansport, Ind.

Club Holds Annual Meeting.—At the annual dinner of the Physicians' and Surgeons' Club of Jersey City, the retiring president, Dr. Henry H. Brinkernoff, was presented with a silver loving cup by members of the club. The following officers were elected: President, Dr. Christopher D. Hill; vice-president, Dr. Henry J. Bogardus and secretary-treasurer, Dr. N. Frederick Feury.

An Argument for Reciprocity.—The State Board of Medical Examiners of New Jersey at its annual meeting passed the following resolution:

> Whereas, The educational and examining standards for the medical license of New Jersey are at least equal in all respects to those of New York and in some respects higher; and
>
> Whereas, The degree of unreasonableness in the matter of interstate indorsement on the part of New York can not be further ignored; therefore, be it
>
> *Resolved*, That on and after October 16, the date of the next regular meeting of this board, the indorsement of medical licenses by New York will be suspended until further notice.

Special Cars for Consumptives.—The Board of Health of Jersey City objects to consumptive patients from Manhattan using the ferries and waiting rooms while en route to the sanitarium at Otisville. A resolution has been adopted ordering that all such cases shall be received in Jersey City only from such means of transportation as has been set apart for this special purpose, and that the patients shall not be allowed to use the public passageways and waiting rooms, and that special cars must be provided. All cars or trains used for this purpose must be thoroughly fumigated, and disinfected, under the direction and supervision of the Board of Health.

NEW YORK.

Addition to Ossining Hospital.—This institution is to be provided with a new building as a memorial to the late Mrs. Frederick Potter. The building will cost $60,000.

Certified Students.—Before a student can enter Albany Medical College he is required, under the new rules, to present a certificate of good moral character signed by two physicians of good standing in the state in which the matriculant resides.

Examiners Appointed.—The State Board of Regents has made the following appointments to the State Board of Medical Examiners: Drs. George R. Fowler, Brooklyn and A. Walter Suiter, Herkimer, representing the Medical Society of the state of New York.

League Meeting.—The Physicians' League of Buffalo held its annual meeting Wednesday, June 30. Officers were elected as follows: President, Dr. Jane W. Carroll; vice-president, Dr. Jeanette M. P. Himmelsbach, and secretary and treasurer, Dr. Katherine S. Munhall.

Stony Wold Sanitarium Needs Funds.—This institution has at present 85 patients suffering from tuberculosis. There are many more applications for admittance than can be accommodated and in spite of the numerous entertainments recently given a plea for more money is sent out and another entertainment will be given August 9.

New Instructors at Albany.—The following instructors have been added to the faculty of Albany Medical College: Drs. Edwin F. Sibley, surgical pathology; Dr. Silas L. Filkins, anatomy and prosector; Dr. La Salle Archambault, neurology; Dr. Leon K. Baldauf, and George E. Bailby, histology, and Drs. Charles H. Gerhard and Harold E. Robertson, bacteriology and pathology.

Personal.—Dr. and Mrs. Harry E. Battin, Corning, sailed for Europe July 18.——Dr. Mary O'Mally, Binghamton, has been appointed on the resident staff of the Government Hospital for the Insane, Washington, D. C.——Dr. Walter A. Scott, Niagara Falls, has qualified as coroner of Niagara County.——Dr. Harlan A. Harris, Syracuse, has been appointed assistant surgeon in the Mexican Central Railway Hospital at Agnascalientes, Mexico.——Dr. William C. Krauss, Buffalo, has been appointed one of the managers of the Buffalo State Hospital.

Medical Library Association Formed.—The Medical Library Association of Jamestown was organized July 25, with 20 charter members who elected the following officers: President, Dr. Era M. Scofield; vice-president, Dr. Jane L. Greeley; secretary, Dr. John W. Nelson, and treasurer, Dr. John H. Wiggins. Any physician who is a graduate of a regularly incorporated medical college is eligible to membership. The admission fee has been placed at $10, which also pays the dues for the first year. The dues thereafter will be five dollars a year, the money to be devoted solely to the purchase of books, cases, etc.

New York City.

Seaside Hospital Opened.—St. John's Guild has opened its Seaside Hospital at New Dorp, L. I., where sick children in need of hospital care will be received during the summer.

Personal.—Dr. and Mrs. William K. Draper sailed on the *Grosser Kurfeurst* July 24.——Dr. H. T. Johnson sailed on the *Carpathia* July 24.——Dr. John Vanderpoel sailed on the *Campania* July 29.

Hospitals Inspected.—Mayor McClellan, accompanied by the Health Commissioner, Dr. Darlington, has made an inspection of Bellevue Hospital, the Willard Park Hospital and the Board of Health Building.

Offered Post With Peary.—Dr. Irving D. Williams, who was Peary's first choice as surgeon of the Arctic ship *Roosevelt*, was obliged to decline the position on account of the ill health and age of his father.

For Mount Vernon Hospital.—An auxiliary organization for this institution has raised sufficient money by entertainments to furnish a room in this institution, purchase a portable house for contagious diseases, equip a drug room and provide several other necessities.

Hospital Motor Day.—It has been proposed by a motorist that, after the fashion of Hospital Sunday, one day during the summer be devoted by motorists to taking out in their motor cars children and patients of hospitals who are unable to walk, and that the day be known "Hospital Motor Day."

Accidents.—Dr. Lucy C. Jones fell from a window of her house July 7, fracturing her skull and both arms and dislocating her hip. Notwithstanding the gravity of her injuries she is making good progress toward recovery.——Dr. T. Harris Cherry, ambulance surgeon at the Hudson Street Hospital, was seriously injured in a collision between the ambulance and a street car July 4.

Contagious Diseases.—There were reported to the Sanitary Bureau for the week ending July 22, 365 cases of tuberculosis, with 150 deaths; 347 cases of measles, with 14 deaths; 181 cases of diphtheria, with 26 deaths; 128 cases of typhoid fever, with 26 deaths; 62 cases of scarlet fever, with 3 deaths; 39 cases of cerebrospinal meningitis, with 20 deaths, and 43 cases of varicella.

City Will Get Its Sanitarium.—The Board of Health, undaunted by its failure to secure a site for the establishment of a sanitarium for the care of the city's tuberculosis patients, has been at work in the towns of Greenville and Mount Hope, Orange County and has secured permission to establish the sanitarium in this vicinity. Option has been secured on several thousand acres of land so that this sanitarium seems to be assured.

Typhoid Spreads.—About 30 cases of typhoid fever have occurred out in Bath Beach and Bay Ridge, sections of Brooklyn. The outbreak of this disease is attributed to the scarcity of water and lack of proper sewage. A new sewer system is now in process of construction. Dr. Billings of the Health Department is of the opinion that the milk is also a source of infection and he recently has had several dairies in the vicinity closed.

For City Filters.—Health Commissioner Darlington has sent a report to the Mayor urging the establishment of a filtration plant for purifying the water furnished to the city. He asserts that the impurities found are largely responsible for the large number of cases of typhoid fever and diarrhea on the weekly records of the department. He has prepared a statistical table showing that the death rate from these diseases has been decreased in cities which have filtration.

Modern Municipal Tenements.—The College Settlement, together with several other settlements, have joined with the Christian Workingmen's Institute in the endeavor to have a bill passed by the legislature authorizing the city to purchase sites of buildings which are a menace to public health and to erect model tenements in their places. It is urged that it would prove more satisfactory for the city to build these tenements, which would be a paying investment, and would in addition be better built.

Rigid Quarantine.—Dr. Alvah Doty, Health Officer of the Port, says he will take nothing for granted; and on the least suspicion passengers and crews will be detained. Merchant vessels will be inspected as rigidly as those carrying passengers, especially those bringing fruits. A number of passengers from vessels coming from the south having high temperatures have been detained in quarantine during the past week, though none have been suspected of having yellow fever.

Gifts to Coney Island Hospital.—The hospital for children suffering from bone tuberculosis at Sea Breeze has at present room for only 45 patients and there are more than 4,000 cases of bone tuberculosis in the tenement house district of New York. The trustees are trying to raise a fund which will enable them to erect a hospital to accommodate 400 patients. Jacob Riis has investigated the work and spoken so highly of it that one philanthropist has given $10,000, another $5,000 and another has pledged $1,500 annually for ten years toward the maintenance of the institution.

PENNSYLVANIA.

Opinion on Privilege to Practice.—Attorney General Carson has furnished the State Medical Society with the opinion that it is unlawful for a physician not a licentiate, to take charge of the practice of a legal practitioner during the latter's temporary absence.

Illegal Practitioner Prosecuted.—Through the Lancaster City and County Medical Society, A. B. Potts of Columbia, was prosecuted and held for trial in court on the charge of having violated the law of this state in not having a license or being registered.

Fire in Hospital.—A fire in the storeroom in the Presbyterian Hospital, Allegheny, July 5, caused considerable excitement, but very little damage, thanks to the presence of mind of Dr. W. C. Dice who prevented the spread of the flames by closing the door of the storeroom.

Gifts to Hospitals.—Alfred O. Deshong presented the Chester Hospital with a sanitary cottage for the use of patients suffering from contagious diseases. Mr. Deshong recently presented the Board of Managers with a cottage, but learning that another cottage was needed for female patients, he doubled his gift.——Mr. and Mrs. A. B. Farquhar have given $1,000 to the York Hospital to be applied to the remodeling of the Nurses Home.

Beef Trust Methods to be Investigated.—It is asserted that a thorough investigation of the methods of the beef trust in Pennsylvania will be instituted by Dr. B. H. Warren, State Dairy and Food Commissioner. The investigation is to be made with a view to determine the character of adulterants or preservatives used to preserve meat. It is asserted that the meat has been colored by washing with colored coal tar dyes, dipped in formaldehyd solution, dusted with sulphites, and washed in boracic acid solution.

To Inspect River Water Supply.—The officials of the State Health Department and the Philadelphia Board of Health will make a thorough investigation of the sources of pollution of the Schuylkill River and other streams in the vicinity of the city. The investigation will begin at Reading, Pa., August 31, and all contributing streams from there to Philadelphia will be carefully examined, and all factories and industrial establishments along the Schuylkill will also be investigated to determine the disposal of their refuse. The inspection will be supervised by Dr. A. A. Cairns, chief medical inspector, and Dr. Seneca Egbert, who will examine the water near the city.

Personal.—Dr. Samuel G. Dixon, the new State Commissioner of Health, established his offices in the Capitol, Harrisburg, July 25.——Dr. John C. Watkins, Oil City, has been appointed lieutenant and assistant surgeon N. G. Pa., and assigned to the Sixteenth Infantry.——Dr. J. A. Kearney, Archbald, has sailed for Europe.——Drs. Charles P. Alderman and Oscar C. Fox have gone on duty as resident physicians at St. Joseph's Hospital, Reading.——Dr. John Repp, Greencastle, has been made Resident Physician at the Philadelphia General Hospital.——Dr. Fred C. Johnson, Bradford, has been appointed chief of the division of inspecting, quarantining and disinfecting.——Dr. Bert K. Vanattan, Franklin, has been made major and surgeon of the Second Brigade.

Philadelphia.

Illegal Practitioner Sentenced.—Philip H. Pierson, alias "Dr." White, pleaded guilty to performing an illegal operation on Elizabeth Johnson and sentenced to eighteen months in the county prison.

Dr. Hare's Narrow Escape.—Dr. Hobart Amory Hare narrowly escaped drowning in Delaware Bay July 22. He was on a yachting trip, and in a severe storm his yacht struck on the shoals and sank. The doctor was rescued by the crew of an accompanying yacht.

For Europe.—Dr. and Mrs. Arthur A. Bliss sailed July 25.——Dr. J. Norman Henry sailed July 26.——Dr. F. R. Packard sailed July 26.——Dr. Paul J. Sartain sailed July 22.——Dr. Ashley P. C. Ashhurst sailed July 1.——Dr. and Mrs. Arthur McGinnis sailed on the *Majestic* July 12.

Milk Crusade.—Owing to the excessive mortality among infants in this city during the recent weeks, 12 farmers who shipped milk to the city daily were arraigned on charges of adulterating milk. The medical inspectors have discovered that several dealers adulterate the milk by the addition of water. The farmers were arraigned at the instance of Food Commissioner Warren, and 5 were held in $500 bail for court.

Personal.—Benjamin Lee has been appointed assistant commissioner of health.——Dr. Ross D. Paterson has been appointed Assistant Physician to Philadelphia Hospital, vice Dr. Fred G. Johnson.——Dr. Charles K. Mills has been appointed consulting neurologist and Dr. Samuel McClary pathologist to the American Oncologic Hospital.——Dr. W. A. Van Voorhis, who had been arrested, charged with malpractice and committed to jail by the coroner, was admitted to bail in the sum of $2,500 by Judge Audenried, July 28.——Dr. Walter J. Cathrall was fined $10.00 and costs July 11 for assaulting a street car conductor.

War on Flies and Insects.—In order to protect the public health against the dissemination of disease, the health inspectors of the city have been directed to visit all milk houses, butcher shops, grocery and candy stores and instruct the owners to place a covering over meats, vegetables, candies, cakes and other edibles exposed for sale in order to protect them from flies and other insects. The following resolution was adopted at the meeting of the health board:

> *Resolved,* That the chiefs of the divisions of nuisances, milk and meat and cattle inspectors are hereby instructed to visit all retail dealers exposing for sale in front of their properties meats, fish, vegetables, fruits, candies and cake, and to instruct the proprietors that a covering of some suitable material must be provided to protect the goods so exposed from flies and insects generally.

Health Report.—The deaths from all causes during the week aggregate 477, as compared with 608 during the previous week, and 434 for the corresponding week of last year. Last week 233 infants succumbed to intestinal diseases, but the deaths this week fell to 183. The principal causes of deaths were: typhoid fever, 19; whooping cough, 5; diphtheria, 4; tuberculosis, 42; cancer, 17; apoplexy, 17; tetanus, 1; heart disease, 40; acute respiratory diseases, 32; suicide, 5; enteritis (under 2 years), 95; enteritis (over 2 years), 7; Bright's disease, 31; inanition, 2; marasmus, 13; and accidents, 7. There were 123 cases of contagious diseases reported, with 25 deaths, as compared with 142 cases and 22 deaths for the preceding week.

WISCONSIN.

Sanitarium Incorporated.—Milwaukee Sanitarium for Tuberculosis has been incorporated without capital stock by Dr. Uranus O. B. Wingate and others.

Must Report Accidents.—Under the new law regarding the registration of vital statistics, physicians are obliged to report accidents, in addition to marriages and deaths. A compensation of twenty-five cents is provided for each registration.

Personal.—Dr. Gustavus I. Hogue, acting assistant surgeon, U. S. Army, has resigned and will practice in Milwaukee.——Dr. Wilbur T. Sarles, Sparta, has gone to Europe for the summer.——Dr. John M. Beffel, professor of pathology in the Wisconsin College of Physicians and Surgeons has resigned.——Dr. Edward Evans, La Crosse, has been re-appointed a member of the State Board of University Regents.——Dr. Frank C. Moneding, Watertown, surgeon of the Second Infantry W. N. G., has resigned.

GENERAL.

Yellow Fever in Panama.—No cases of yellow fever were reported from the city of Panama, during the first eleven days of July, according to *Public Health Reports.* In Colon, since July 2, five new cases have been reported with one death.

Personal.—Dr. Miroslav Urbanich, a medical inspector for the Netherlands, in Java, recently visited San Francisco. He states that the health record of Java is good, with the exception of that for the rainy season, which lasts for two months, and during which it is dangerous for a white man to be out of doors. There is no bubonic plague in the island, the most prevalent diseases being beriberi and malaria.

Quarantine Against Panama.—According to a report by Acting Assistant Surgeon Gruver, the Colombian ports have declared quarantine against Panama. Vessels from the Isthmus desiring to enter any Colombian port must first go to Guayaquil, Ecuador, for fumigation, and each vessel receive a certificate from the Colombian consul stationed there before pratique will be granted by the Colombian port authorities.

Robbery of Military Medical Stores.—It is reported from Manila that during the past few years probably not less than $100,000 worth of instruments and medical stores has been stolen from the medical supply depot. Two clerks were arrested charged with stealing supplies from the depot and selling them to the American drug store. It is also charged that the books were tampered with in order to conceal the thefts.

Health Report of the Philippines for April.—The report of the Board of Health for the Philippine Islands for April shows that in Manila there were 585 births during the month; of these 329 were male and 256 female. During April there were 530 deaths among the permanent residents of Manila and 48 among transients. Three deaths occurred in women of advanced age from senile debility. One woman was 105 years of age, another 115, and the third 125. There were three cases of smallpox with no deaths in April, 1905, against 18 cases with 7 deaths in April, 1904. Two cases of bubonic plague occurred during the month; both terminated fatally.

Leprosy and Smallpox on the Isthmus.—A case of leprosy is reported from Bocas del Toro. The smallpox patient is a laborer in the employ of the United Fruit Company. It has been impossible to trace the origin of the infection. The man was sent to the company's hospital and isolated. The leprosy patient is a Central American Spaniard who states that he has lived with a tribe of Indians at the headwaters of the Changuinola River for several years. The man was not aware of the nature of his disease and went to Bocas de Toro for treatment. The case is reported as isolated, but no definite conclusions have been reached regarding its ultimate disposition.

Leprosy in Cuba.—A case of leprosy was detected in an old resident of Matanzas. The patient is a man, aged 47, and it is stated in *Public Health Reports* that the disease first appeared when he was 9 years old and while he was visiting a maternal aunt who was affected with it. As both his parents were healthy this seems to show that leprosy is acquired by contagion, and that in this case it is not congenital. The patient has both the tubercular and the anesthetic forms of the disease, the tubercular on the face and the anesthetic on the hands. There is contraction of the fingers and several of the phalanges have been lost. The patient has been sent to the San Lazaro Hospital in Habana, for proper segregation and care.

THE YELLOW FEVER SITUATION.

RAPID SPREAD—RIGID QUARANTINE—ACTION OF OTHER STATES—MISSISSIPPI INVADES LOUISIANA.

Louisiana.

New Orleans Isolated.—New Orleans is practically cut off from the outside world by the strict quarantine regulations adopted by neighboring municipalities and states. The local health board, headed by Dr. Quitman Kohnke, the health officer, and the State Board of Health, whose president, Dr. Edmond Souchon, is in active command, are working in close accord with the United States Public Health and Marine Hospital Service, in the effort to restrict the disease and to prevent the spread of the infection.

Statistics.—Up to the end of July 304 cases of yellow fever had been reported in New Orleans, from 46 foci of infection, with 62 deaths, a percentage of 20.4. On July 31, 21 cases were reported, with 5 new foci and five deaths, and on August 1, 42 cases were reported, with 4 new foci of infection and six deaths.

Heat Complicates Conditions.—The situation in New Orleans has been complicated since July 30 by a torrid wave in which the temperature rose to 92.6°. As a result the new cases of fever doubled August 1. No abatement of the hot wave was then in sight, and a still heavier death-rate was expected.

Abolition of the Mosquito.—About 20,000 cisterns are being treated daily with oil and about 5,000 are being screened each day. It is reported that half a million dollars is available for the purpose of purging New Orleans from the mosquito-borne infection.

To Get Rid of Mosquitoes.—The mayor of New Orleans has issued a proclamation concurred in by the city health officer, the president of the State Board of Health, the surgeon of the United States Public Health and Marine Hospital Service and the advisory committee of the New Orleans Parish Medical Society, which gives the following instructions for stamping out the infection by getting rid of its cause, the "cistern mosquitoes:"

First—Keep empty all unused receptacles of water in every house, and allow no stagnant water on any premises.

Second—Screen all cisterns after placing a small quantity of insurance oil (a teacupful in each cistern) on the surface of the water.

Third—Place a small quantity of insurance oil in cesspools or privy vaults.

Fourth—Sleep under mosquito nets.

Fifth—Wherever practicable, screen doors and windows with wire screens of close mesh.

Outside Parishes.—Plaquemines parish, just above the city, on the west bank of the river, reported officially on August 1, six cases of yellow fever; Terrebonne parish, one case, and Jefferson parish two cases. Officials from the State Board of Health and the U. S. P. H. and M. H. S. service have been sent to these parishes to take charge of the situation. The patients will be screened and isolated, and a war against mosquitoes will be inaugurated. All of these patients are Italians or Austrians who have been directly in connection with the Italian quarters of New Orleans where the infection was undoubtedly received.

Shreveport.—A case of yellow fever is reported in the detention camp at Shreveport.

Modification of Quarantine Regulations.—President Souchon of the State Board of Health issued a proclamation August 1 on behalf of the board and of parish and municipal health officers, announcing that he had accepted, and recommended the acceptance by subordinate officers of the Marine Hospital Service, of health certificates for through passengers from northern points transferring in screened coaches at New Orleans. He declares that passengers from New Orleans; after a detention of five days in Marine Hospital Service camps who are given certificates, should be admitted without detention into the parishes and towns of the state.

Embargo on Freight.—The president of the State Board of Health deprecates the quarantine against shipments of merchandise from New Orleans and recommends that no such restrictions be imposed in as much as all freight cars from New Orleans are fumigated by the officials of the U. S. P. H. and M. H. Service before leaving the city.

To Control Spread of Fever.—Dr. Quitman Kohnke, health officer of New Orleans, has issued the following circular:

Office of the Board of Health of the City of New Orleans.

The spread of yellow fever is easily controlled by the application of very simple rules.

Whether or not New Orleans will be rid of yellow fever at an early date depends in a very large measure on the degree of assistance each householder is willing to contribute to the work of eradication.

Yellow fever is transmitted from person to person by the bite of a stegomyia mosquito—the kind whose breeding places are cisterns, water barrels and similar collections of water. The stegomyia mosquito bites in the day time usually, seldom at night.

It is important to know the conditions under which these mosquitoes transmit the disease so that the measures of prevention may be intelligently operated. Mosquitoes, in order to become infectious, must bite a patient during the first three days of the fever, and then ten days must elapse before it is capable of transmitting the disease.

Mosquitoes are, therefore, not dangerous before the tenth day after biting the sick, and the patient is not dangerous after the third day of fever.

Protect from mosquitoes, day and night, all cases of fever for three days, and then destroy before the tenth day, after the beginning of the illness, the mosquitoes that are in the room.

Whenever yellow fever spreads from person to person, it is because these preventive measures have not been carried out.

QUITMAN KOHNKE, Health Officer.

Other States.

Alabama.—The State Quarantine Board at a special meeting August 1, adopted the following new quarantine regulations:

All vessels from Colon, either direct or via any other port, shall be disinfected at the station of this board and held five full days thereafter at the station. All vessels from Bocas del Toro, Republic of Panama; Puerto Cortez, Honduras; Livingston, Guatemala, and Belize, British Honduras, shall be full five days out from point of departure before leaving the quarantine station of this board.

The rigid quarantine which has been enforced since July 29 against Louisiana by the State Board of Health has been legalized by a proclamation issued by Governor Jelks. This proclamation, like the recommendations of the state board, extends the area under quarantine so as to include the entire state of Louisiana.—State Health Officer, Dr. William H. Sanders, Montgomery, announces that he believes the quarantine steps taken in the case of yellow fever, reported August 1 in Montgomery are fully adequate, and that no occasion exists for the declaration of a quarantine against Montgomery.

Arkansas.—Governor Davis, on August 1, directed the commander of the state guard to detail as many men as might be necessary to act as guards on all trains entering the state, and at all points where boats run, in order to establish a strict state quarantine against all points where yellow fever is found to exist.

Georgia.—Health Officer Dr. William F. Brunner, Savannah, has gone to Louisiana to investigate the conditions there and to determine whether or not Savannah shall quarantine against New Orleans and adjacent points.

Illinois.—Dr. James A. Egan, Springfield, secretary of the State Board of Health, announces that train inspection service at Cairo will be begun at once, but that there is no present intention on the part of the State Board of Health of instituting quarantine or of imposing unnecessary hardships on the traveling public.

Mississippi.—Port Gibson has appointed a vigilance committee to guard against the entry of strangers. Pass Christian has been closed against all travel from New Orleans. Utica has declined to receive mail that has not been fumigated.

Mississippi Invades Louisiana.—It is reported that Mississippi has five armed boats patrolling the coast to prevent fishermen from breaking through the quarantine lines, and furthermore that armed guards along the lines of the Louisiana and Nashville Railroad have extended their patrols three miles inside the limits of Louisiana. In consequence of this action, Governor Blanchard of Louisiana has telegraphed Governor Vardaman of Mississippi informing him that Mississippi armed quarantine guards have crossed into Louisiana territory at Pearl river, and asking Governor Vardaman to give orders that his guards remain on their own side of the state line. This telegram was supplemented by a second in which Governor Blanchard stated that he had information that Mississippi patrols had forbidden fishermen to fish in Lake Borgne and were now guarding the exit of the Lake Borgne canal, preventing boats from going out; asking whether this was done by the order of the governor of Mississippi, and stating that this state of affairs could not be tolerated.

Missouri.—The president of the State Board of Health called a meeting for August 3 in St. Louis, to discuss the question of a quarantine against infected points in the South.

New York.—One passenger and five of the crew of the Mallory line steamer San Jacinto, from Galveston and Key West, which arrived August 1, were removed from the steamer at quarantine and transferred to Hoffman Island for observation.

Pennsylvania.—Every possible precaution is being taken by the state quarantine officers to prevent the introduction of yellow fever from New Orleans into Philadelphia. Orders for a rigid inspection of all vessels from southern ports, and especially from the gulf ports, have been issued by the quarantine officials at Marcus Hook. A complete physical examination will be given each passenger on such boats arriving at quarantine, and all vessels will be fumigated.

Texas.—Dr. George R. Tabor, Austin, state health officer of Texas, announced August 1 that passengers from eastern and northern points having to pass through New Orleans could not continue their journey through Texas without remaining in a detention camp for at least six days.

Marshall, just across the Louisiana state line, is said to have instituted a shotgun quarantine against all persons or traffic from fever-infected districts, and to have stopped all train service.

A case of yellow fever has been reported in Morgan City, 80 miles west of New Orleans.

Virginia.—The health commissioners of Norfolk, Portsmouth, Berkeley and Norfolk counties have ordered quarantine against New Orleans.

General.

Federal Government May be Involved.—It is reported that the schooner *Grace* of Gulfport, Miss., and another vessel have been lying five miles inside of the Louisiana line for the past week, and at times even entering the outlet from Lake Pontchartrain into Lake Borgne, and during that time have taken 18 Louisiana boats and turned them over to the United States revenue cutter *Winona* and towed them to Ship Island, where the crews were interned.

Detention Camps.—One of the greatest problems is the necessity for greater facilities at the detention camps, where patients are held for five or six days for quarantine, as many of the towns refuse to allow camps to be established within their limits and as the camps already established are overcrowded. The inmates of the camps are uncertain whether they will be allowed to reach their destination after the stated period of detention has expired.

Ask United States to Intervene.—A petition is being circulated in Louisiana asking the United States Government to take charge of the yellow fever situation and handle it as it did in Havana, Santiago and other places.

Court of Appeals Moved.—On account of quarantine restrictions, the United States Court of Appeals has been removed from New Orleans to Atlanta.

FOREIGN.

Dengue in Australia.—Queensland has had an epidemic of dengue. Thirty-nine deaths in Brisbane were directly due to this disease.

Yellow Fever in Mexico.—Six cases of yellow fever are reported from Vera Cruz. The infection was probably imported from Tierra Blanca, where cases of yellow fever had been present for several weeks previously.

Excessive Summer Heat in India.—During June the heat in some parts of India was excessive. In the region of the Ganges the temperature frequently ranged from 100 to 114 F. A temperature of 106 F. was registered in Calcutta, where many deaths were directly due to the great heat.

Excessive Heat in Italy.—It is reported that the localities which suffered most from the recent hot wave are Romagna, Tuscany, Lombardy, and Venezia. The largest number of sufferers were laborers in the fields. A number of cases of sunstroke have been reported from Florence, Ascoli, Lodi and Verona, some of them being fatal.

Sanitary Service in the Roman Campagna.—On June 1, the Red Cross began the sanitary service in the Roman Campagna for the sick poor, establishing, as in the past year, an ambulance system in the localities most infected with malaria. The personnel has already been appointed, and the necessary material has been obtained.

A Pasteur Institute in the Straits Settlements.—The *British Medical Journal* states that owing to the occurrence of several cases of hydrophobia in Penang, some of which have terminated fatally, Leong Fee, the Chinese consul, has made an offer to the government to build and to equip a Pasteur institute for the Straits Settlements and neighboring regions.

British Royal Infirmary.—The carnival which was held recently at the Zoological Gardens, Clifton, with the object of raising $75,000 to wipe off the existing debt on the British Royal Infirmary, has been most successful, according to the *Lancet*. It yielded a profit of $37,000, and Sir George White has given a similar sum, so that the infirmary is now free from debt.

International Congress on Infant Feeding.—The first session of this congress is to be held at Paris, October 20, 21. The object of the association is to diminish the mortality among non-breast-fed children by supplying good and pure milk and by instructing ignorant mothers. Anyone wishing to take part in the congress should send his name, together with 20 francs ($3.80), to Dr. Roger, 39 Rue de Berry, Paris, before October 15.

Vaccination in South Africa.—In Natal the local legislature, by a vote of 18 to 16, has decided to strike out the appropriation for vaccination. The prime minister is reported to have protested against such false economy, saying that it would probably result in an epidemic of smallpox. The Natal legislature does not seem to have been moved by antivaccination principles, but by a desire to save present outlay no matter at what future expense.

Kala-Azar in Assam.—In a report recently published concerning the work of the dispensaries in Assam, says the *Lancet*, it is stated that the number of cases of kala-azar fell from 2,534 in 1902 to 257 in 1904, but it is admitted that the diagnosis of the hospital assistants cannot be depended on. Concerning this disease statistics are almost valueless, although it is probable that the mortality has not been so great in recent years as formerly.

Tuberculosis Hospital in Rome.—The new hospital, Humbert I, built at Rome for indigent tuberculous patients has begun operations. Without the intention of establishing a true sanatorium, the institution being designed as a refuge for patients suffering from chest troubles of every degree, the commission has been able to solve the problem of hospital care for the tuberculous poor of Rome. The institution consists of 5 pavilions, of galleries for open-air treatment, of cottages, and of special booths, all fitted out according to the modern system of hospital hygiene.

Yellow Fever in Honduras.—Acting Assistant Surgeon Carter of the Public Health and Marine Hospital Service has been ill with yellow fever at Puerto Cortez, but has recovered sufficiently to be on duty. In Puerto Cortez, since July 1, there have been reported 15 cases of yellow fever, with 3 deaths. The situation at San Pedro, as reported by the consular agent, is very bad, 400 cases being reported, with a total of 52 deaths. The greatest mortality is among the native population, the mortality among the foreigners being very small. Yellow fever has also been reported from Coloma, a small town near San Pedro.

Cremation for the Parsee Dead.—The Indian correspondent of the *Lancet* states that there seems to be a move among a certain section of the Parsee community in Bombay to adopt the western method of cremation of the dead in place of the loathsome practice of exposing the dead to be devoured by vultures. The Hindu method of cremation by open wood fires is not supported. It is proposed to establish a Bombay cremation society on the lines of the Cremation Society of Bengal which was established in Calcutta in 1902. It is earnestly to be wished, he states, that the innovation may be taken up by the Parsee community, which, while so enlightened and far-seeing in some respects, is backward and exclusive in others.

International Congress on Assistance for the Insane.—This congress will be held at Milan, in September, 1906. Among the matters to be dealt with are the construction and organization of asylums, the no restraint system, solitary confinement, work and agricultural colonies, special arrangements for the weak-minded and epileptic, alcoholics, criminal lunatics, etc., boarding out the family colonies, psychiatric and neuropathologic dispensaries; the treatment of incipient insanity; legislation; the powers and duties of the state; private initiative. The president of the organizing committee is Professor Tamburini, who was recently chosen to succeed the late Professor Ezio Sciamanna in the chair of clinical psychiatry in the University of Rome; the general secretary is Professor Ferrari, Bertalia, Bologna, Italy.

LONDON LETTER.

The Imperial Cancer Research Fund.

At the annual meeting, held under the presidency of the Prince of Wales, Dr. Bashford, general superintendent, reported that during the year the investigations had passed out of the provisional stage and had acquired definite characters. The first series of reports was received from India and included 146 cases in natives subsisting on a vegetable diet, 137 in others whose food was mainly flesh and 222 in natives living on a mixed diet. Evidence had been obtained that the occurrence of sarcoma increased as life advanced in a manner analogous to that long known to be characteristic of carcinoma. Sir William Church, chairman of the executive committee, in moving the adoption of the report, said that the investigations carried out during the year might be described as falling under three main heads—statistical, histologic and experimental. Additional evidence had been accumulated showing that cancer could not be associated with any peculiarities of diet. The continued tabulation of the cases of malignant growths in the metropolitan hospitals, in which the diagnosis had been proved microscopically, confirmed the opinion that in internal growths the errors of diagnosis even of the most accomplished and experienced observers are much greater than would be expected. The results of inoculation in mice, he stated, point out the necessity of yet more closely studying the processes of cell multiplication. Tumors occurring sporadically in mice can be transplanted to other mice; thus it has been found possible to perpetuate a malignant growth through successive generations. Every transplantation did not succeed and the cause which determined success or failure can not be stated. Slight racial differences in the mice seemed to be important. Careful examination of transplanted tumors had shown that a continuous power of growth is manifested by the transplanted cells and that the new growth originates from them and not from the cells of the host irritated or stimulated by the transplanted material. In mice, as in men, spontaneous malignant growths occur in the aged rather than in the young, but transplanted growths flourished as well or better in young and vigorous mice. As to the question of contagion, large numbers of healthy mice were kept for long periods in the same cages with mice suffering from both sporadic and inoculated tumors, and yet in no instance was the disease transmitted.

Proposed Charter for the British Medical Association.

The "representatives" at the Oxford meeting of the British Medical Association instructed the council to obtain alterations in the memorandum of association so as to give the association power to expend money for the defense and promotion or maintenance of the honor or interests of the profession, particularly taking or defending legal proceedings. The council referred the question to a committee which held numerous sittings and took legal opinions. As a result, the chairman of the council, Mr. Andrew Clark, was asked to ascertain what prospect there would be of the privy council advising the crown to grant a charter to the association. He has reported that there is a good prospect of obtaining one.

Vital Statistics of Jews.

A paper entitled "A Contribution to the Study of the Vital and Other Statistics of the Jews in the United Kingdom," has been read before the Royal Statistical Society by Mr. S. Rosenbaum, and is of considerable interest. It shows that the birth rate and a low death rate among the Jews is to produce English and that the infant mortality is considerably lower. In the three quinquennial periods ending respectively in 1890, 1895, and 1900. the metropolitan rate of infant mortality (deaths under one year to 1.000 births), increased from 153 to 156 and 161. At the same time, the rates in the borough of Stepney declined from 170 to 168 and 165. In this borough, an enormous increase of the Jewish population has taken place in recent years and has been concurrent with a decline of infant mortality while that of the metropolis generally increases. The Jewish birth rate in East London appears to be considerably higher than the non-Jewish. In 1903 it was 45 per 1,000. This high rate is due not only to the large proportion of Jewish women who are married, but also to their great fertility. The combined result of an abnormally high birth rate and a low death rate among the Jews is to produce a much greater rate of natural increase than that of the English population.

The Quartercentenary of the College of Surgeons of Edinburgh.

Elaborate preparations have been made to celebrate the four hundredth anniversary of the incorporation of the College of Surgeons of Edinburgh. The honorary fellowship will be conferred on a number of eminent surgeons, British and foreign, including the following Americans: Drs. Halsted, Keen, Warren, McBurney and W. J. Mayo. The actual anniversary falls on July 1, when the "Seal of Cause" was granted in 1505 by the town council to the Barber Surgeons of the City and Liberties of Edinburgh, which formed them into a trades guild with the monopoly of the barbers' and surgeons' craft, and with the privilege of obtaining the body of "ane condamnit man after he be died" to make anatomy of and the sole right of making and sellling *aqua vitæ* within the burgh.

Correspondence

The Country Surgeon.

MILLERSBURG, OHIO, July 28, 1905.

To the Editor:—The president of the Baltimore & Ohio Surgeon's Association in his annual address at the Pittsburg meeting, made a statement which rural surgeons can scarcely permit to go unchallenged. He took occasion to deplore the gross incompetency of the country railroad surgeons, and suggested that they take post-graduate courses in surgery. He even intimated that the railroad company might be induced to defray the expenses of such a course of instruction. He said that the rural surgeon was necessarily inferior to his city brother, because he did not have the advantages to keep up with the progress of the science that the latter possesses, etc.

Now I suppose the doctor doubtless has reasons for entertaining a low estimate of our qualifications, especially since he has the courage to express his convictions in a public address. It seems to me, however, that if he were familiar with the work done and the results obtained by some of the country surgeons, he would have qualified his statements, recognizing the fact that there are exceptions to the rule he arbitrarily asserted. In the first place railroad companies, in appointing the surgeons in large towns and cities, have a considerable contingency to select from. They select men of recognized surgical ability and as a rule of considerable experience. Men of this class are by no means numerous, even in large cities. For instance, take a city which has within its precincts one hundred active practitioners of medicine. How many competent surgeons would be found among them? I venture to say that one could count them on the fingers of one hand. Granting this to be true, we can easily imagine that railroad companies may have some difficulty in finding a man who is a tolerably fair surgeon even in good sized towns along their line. We find men everywhere who are able practitioners of internal medicine, but have no aptitude or skill whatever in the line of surgery.

It is true that such men ought not to accept appointments as surgeons, but in the struggle and competition for notoriety they seek the appointments, and by their blunders often bring the entire craft into disrepute. All the post-graduate courses existing would not convert such men into surgeons.

Now, in casting reflections on the rural surgeons as a class, the doctor should have been more explicit. He should have stated in definite terms in what respect we are lacking. If he has reference to operative skill and dexterity of course he would not expect a surgeon who has only a few capital operations in a year to be compared with one who operates almost daily. Although I beg leave to say in this connection that I know a country surgeon who has recently made his ninetieth amputation and who in skill and scientific technic stands second to but very few city surgeons whom I have seen operate; and when it comes to results he can excel some of them.

Possibly the doctor regards us as deficient in aseptic technic. I see no reason why we should be open to criticism in that respect. In our latest works on surgery we find hundreds of pages devoted to operative technic, general as well as special. Every step is described, from the preparation of the patient to the minutest details in the operative procedure. It would seem that a short period of careful study should make one master of the subject without taking a post-graduate course. It is self-evident without entering into detail, that we country surgeons are often placed under circumstances, and confronted with conditions, that render strict asepsis almost impossible. The city surgeon stands back, scrubbing his hands and looking wise, while the internes and nurses prepare the patient. Instruments and dressing material are placed before him in the best of order and in a perfect aseptic condition. When he operates he is surrounded by competent assistants who stand ready to take the blame should there be anything wrong in the technic. How different is the lot of the country surgeon. For instance, I would like to have seen one of the city surgeons in my place when called to see a man whose leg was crushed and who was lying on the floor of a box car; I was obliged to amputate by the light of lanterns and without any medical assistance. S. P. WISE.

Marriages

B. Barret Griffith, M.D., Springfield, Ill., to Miss Sarah Adelia Giddings of Colorado Springs, Colo., June 28.

Duncan Frazier Stewart, M.D., Neponset, Ill., to Miss Adelaide Victoria McIntire, at Chicago, July 6.

Joseph John Cody, M.D., to Miss Mary Genevieve McCabe, both of Charlestown, Boston, Mass., June 24.

Joseph Courtney Ralston, M.D., Galveston, Texas, to Miss Marie-Martin Smith of Painesville, Ohio, June 29.

William P. Burke, M.D., Highland, Cal., to Miss Kate Parmlee of Cedar Falls, Iowa, at Highland.

William S. Shipp, M.D., Battle Creek, Mich., to Miss Florence Temple of Tecumseh, Mich., June 28.

Eugene C. Taylor, M.D., Millersburg, Ind., to Miss Hazel Bella Deniston of Indianapolis, June 29.

J. A. Maronda, M.D., Emerson, Neb., to Miss Emma Palmer of Battle Creek, Neb., recently.

James P. Connell, M.D., Fond du Lac, Wis., to Miss Eliza Twohig of Osceola, Wis., June 27.

William Grant Norman, M.D., to Miss Lida C. Sands, both of Dow City, Iowa, July 12.

George L. Wentz, M.D., Drifton, Pa., to Mrs. Caroline Goddard of Worcester, Mass., July 11.

Samuel A. Crabtree, M.D., to Miss Emma Alice Reynolds, both of Tolono, Ill., July 26.

Robert G. Allen, M.D., Washington, Ill., to Miss Anna Forward of Maryland, June 26.

Arthur McGinnis, M.D., to Miss Nellie B. Daugherty, both of Philadelphia, July 11.

Theophil Klingmann, M.D., to Miss Nathalie Wahr, both of Ann Arbor, Mich., July 1.

Denton W. Rudgers, M.D., to Miss Maude Ohlman, both of Yankton, S. D., July 1.

Lewis C. Bean, M.D., to Miss Carrie Bell Walker, both of Gallipolis, Ohio, July 1.

E. R. Todd, M.D., Adams, Ore., to Miss Cora M. Moore of Sadem, Ore., June 22.

Jérome J. Stout, M.D., Dayton, Ohio, to Miss Caldwell, recently.

Deaths

Henry Hatch, M.D. Louisville Medical College, 1872, of Quincy, Ill., a member of the American Medical Association, Illinois State Medical Society, Adams County Medical Society, International Association of Railway Surgeons, Mississippi Valley Medical Association; fellow of the American Academy of Railway Surgeons, president Tri-State Medical Society in 1901, surgeon to the Burlington system; consulting surgeon to Blessing Hospital, Quincy; consulting physician to Woodland Home for Orphans and Friendless and Anna Brown Home for the Aged; from 1882 to 1887 professor of principles and practice of medicine in the medical department of Chaddock College, and president of the school board of Griggsville in 1875 and 1876, one of the most prominent practitioners of western Illinois, died at Blessing Hospital, Quincy, from pernicious anemia, July 24, after an illness of six months, aged 57.

Curtis Harvey Bill, M.D. New York City, 1859, of Bridgeport, Conn., a member of the American Medical Association; who won renown during the Civil War as surgeon to Gen. W. T. Sherman, after having been driven from Clarksville, Tenn., by a vigilance committee, on account of being a Union sympathizer; died in St. Luke's Hospital, New York City, July 24, six days after an abdominal section for malignant disease, aged 70.

William Shelton White, M.D., St. Louis Medical College, 1872, a member of the American Medical Association; from 1872 to 1892 chief of the microscopic department of the Bureau of Animal Industry, South Omaha; for two years assistant physician and for four years physician of Douglas County, died at his home in South Omaha, Neb., July 15, after a lingering illness, aged 61.

Wiley Rogers, M.D. Cincinnati College of Medicine and Surgery, 1865; a member of the Kentucky Board of Charity for twenty years, and of the State Board of Pharmacy for four terms; coroner and health officer of Spencer county and secretary of the Brashear Medical Society, died at his home in Taylorville, Ky., July 5, from uremia, after an illness of three months, aged 63.

Benjamin Edge, M.D. Bellevue Hospital Medical College, New York City, 1879, a member of the American Medical Association and of the medical Society of the State of New Jersey; in 1884 a member of the State Council of Charities and Corrections, and in 1901 a member of the State Reformatory Commission, died at his home in Jersey City, N. J., July 25, aged 54.

Charles S. Williams, M.D. (years of practice Indiana), 1897, for more than thirty years a practitioner of Columbia City, Ind.; for 22 years coroner of Whitley County and for several years secretary of the city board of health, died at his home in Columbia City, July 10, from carcinoma of the stomach after an illness of several months, aged 62.

David Wilkins, M.D. University of Michigan Department of Medicine and Surgery, Ann Arbor, 1853, surgeon of the One Hundred and Thirtieth Illinois Volunteer Infantry, during the Civil War, for 51 years a resident of Greenville, Ill., died at his home in that city, from cerebral hemorrhage, July 23, after an illness of two months, aged 76.

Mahlon Felter, M.D. Albany (N. Y.) Medical College, 1859, one of the oldest petitioners of Troy, N. Y.; a member of the state and county medical societies and of the American Academy of Medicine; city physician of Troy in 1861 and 1862; died at his home in Troy, July 19, after an illness of six months, from heart disease, aged 74.

Edward W. Ridings, M.D. Vanderbilt University Medical Department, Nashville, 1888, a member of the American Medical Association and a prominent practitioner of Dickson County, Tenn., was shot and fatally wounded by J. E. Fowler, July 8, dying a few hours later, aged 35.

Robert M. Weir, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1866, said to have been the oldest practitioner of Bloomington, Ind.; for several years secretary of the local board of health, died at his home in Bloomington, July 6, from pulmonary tuberculosis, after a long illnes, aged 64.

James L. Warden, M.D. University of Louisville, Medical Department, 1876, formerly assistant physician at State Hospital for the Insane, No. 3, Nevada, and later superintendent of State Hospital for the Insane, No. 1, Fulton, died at his home in Pleasant Hill, Mo., July 3, from septicemia, after a long illness.

David Beattie Smiley, M.D. College of Physicians and Surgeons in the City of New York, 1887; a member of the Medical Club of Middletown, and of the Medical Board of Thrall Hospital, died at his home in Middletown, N. Y., July 13, from spinal disease, aged 45.

Charles Rulon Pittinger, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1899, of Newark, N. J., died suddenly in a sanitarium in that city, July 6, eleven days after an operation for appendicitis, from cardiac embolism, aged 28.

Charles Darius Rogers, M.D. Albany (N. Y.) Medical College, 1888, some time government surgeon at Sitka, Alaska, and later clerk of the district court of Alaska, died at Denver, July 8, from the effects of an overdose of morphin taken for insomnia, aged 39.

E. C. Bainbridge, M.D. Jefferson Medical College, Philadelphia, 1848, of Harrisburg, Ky., some-time representative from Owen County in the legislature, died at the home of his daughter in Louisville, July 20, after a lingering illness, aged 76.

David Leslie Philip, M.D. McGill University Medical Department, Montreal, 1863, once president of the Brant County Medical Association, died at his home in Brantford, Ont., July 10, from cerebral hemorrhage, after an illness of four years, aged 66.

Michael Kimmel Warner, M.D. Washington University School of Medicine, Baltimore, 1876, for several years connected with the city health department, died at his home in Baltimore, July 22, after an illness of one year, aged 53.

George H. Wilson, M.D. Medical Department of Western Reserve University, Cleveland, 1893, of Cleveland, died at St. Alexis Hospital in that city, July 3, from nephritis, after an illness of two months, aged 35.

Alexander G. B. Parke, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1866, died at his home in Gap, Pa., July 1, from cerebral hemorrhage, after an illness of two days, aged 63.

D. C. Dunn, M.D. Louisville Medical College, 1872, a member of the local board of education, and justice of the peace, died suddenly at his home in O'Fallon, Ill., July 23, from cerebral hemorrhage, aged 61.

Clarke Robbins, M.D. (years of practice, Indiana, 1897), for 49 years a practitioner of Morgan County, Ind., died at his home in Mooresville, June 27, from paresis, after an illness of two years, aged 68.

James A. Armstrong, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1861, died at his home in Hellam, Pa., July 20, after an illness of nearly two years, aged 67.

Rupert W. Parker, M.D. University of Vermont Medical Department, Burlington, 1893, of Boston, died suddenly from heart disease at his summer home, Crow Point, near Hingham, Mass., July 10.

Lafayette Swoope, M.D. Medical College of Virginia, Richmond, 1857, died recently at the home of his nephew in Mississippi, and was buried at Swoope's Depot, Va., July 13, aged 73.

Hiram Murray Stokes, M.D. Pennsylvania, 1884, shot and killed himself at his home in Philadelphia, July 7, while temporarily insane from heat and an old injury to the head, aged 41.

Benjamin R. Ussery, M.D. Medical Department University of Tennessee, Nashville, 1897, died at his home near Shiloh, Tenn., July 10, from tuberculosis of bones, after a protracted illness.

David S. Hogan, M.D. John A. Creighton Medical College, Omaha, 1899, a member of the American Medical Association, died at his home in North Loup, Neb., July 4, aged 33.

George S. Tankersley, M.D. Tulane University of Louisiana Medical Department, New Orleans, 1893, died at his home in La Pine, Ala., July 12, after an illness of one year.

Henry B. Allen, M.D. Jefferson Medical College, Philadelphia, 1883, for several years deputy revenue collector, died at his home in Cloquet, Minn., July 4, from tuberculosis.

Charles W. Robbins, M.D. Penn Medical University, Philadelphia, 1859, died at his home in Richmond, Philadelphia, July 4, from senile debility, aged 70.

George Mathews Telfair, M.D. Medical College of Ohio, Cincinnati, 1860, died at his home near Bloomington, Ohio, July 13, after a long illness, aged 65.

Philip J. Tresch, M.D. Fort Wayne (Ind.) College of Medicine, 1885, of Lafayette, Ind., was shot and killed in that city, by Alexander Kennedy, July 16.

Benjamin Franklin Gardner, M.D. Cincinnati, 1860, surgeon during the Civil War, died at his home in Atlanta, Ill., July 21, from senile debility, aged 87.

William T. White, M.D. Kansas City (Mo.) Medical College, 1895, died at his home in Kansas City, July 18, from an overdose of morphin, aged 35.

Daniel D. Bartholomew, M.D. Ohio, 1880, died at his home in Holly, Mich., July 22, after an illness of one day, from heart disease, aged 56.

Emanuel M. Scheurer, M.D. Pennsylvania, 1871, died at his home in Clearfield, Pa., July 10, from septicemia, after a long illness, aged 59.

James C. Bristow, M.D. University of Louisville Medical Department, 1872, died at his home in Wayne City, Ill., July 16, aged 81.

Mason M. Echols, M.D. Medical College of Alabama, Mobile, 1896, died at his home in Girard, Ala., July 15, aged 31.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

SWAIM'S OINTMENT AND PANACEA.

MANCHESTER, N. H., July 17, 1905.

To the Editor:—Can you give me the formula or composition of Swaim's Ointment or the Panacea of Mr Swaim (as it is called sometimes) for the treatment of leg ulcer. JOHN S. MURRAY, M.D.

ANSWER.—Swaim's panacea is supposed to be a preparation similar in composition to the Compound Syrup of Sarsaparilla (U. S.) Swaim's Ointment is said to be composed of 25 per cent. precipitated sulphur, in equal parts of lard and suet.

FITTING GLASSES.

B. C. P. writes: "Wishing to take up the work of fitting glasses in my practice, I write you for information as regards a suitable text-book for a beginner in the work, one that will give necessary information, and as to what will be the necessary apparatus required."

ANSWER.—Most of the modern student's text-books on ophthalmology will furnish the required information. Those written by Jackson, de Schweinitz, Swanzy, etc., are plain, thorough and understandable. In addition, the principles and practice of retinoscopy should be mastered, and for this we know of no book superior to *Thorington's*. A retinoscopic mirror should be purchased and used in all cases, and no examination for refractive error is complete without a good ophthalmometer, which, although not always reliable, is still a most important aid in diagnosis. The ophthalmoscope is an instrument which should always be used, as it furnishes essential information, not only as regards the ocular media, but also data concerning the refractive condition of an eye. The surgeon should possess facilities for thoroughly darkening his consultation room, and should use for illumination either a good argand burner or a powerful incandescent light with a glazed shell (as sold by dealers in ophthalmologic instruments, etc.), or both. A Thorington asbestos chimney is a valuable aid in using retinoscopy. A good set of test lenses, etc., is, of course, indispensable, and some Snellen test types must, of course, be purchased. Reliable illumination of such test-types may be obtained by artificial illumination, properly shaded, placed either above or below the letters, as daylight is variable and unreliable. Instead of this arrangement an illuminated box, such as devised by Dr. Nelson Black of Milwaukee, may be purchased, and will be found to be reliable and most convenient. In addition to this some of Jaeger's test paragraphs for close reading will be necessary. All cases should also be carefully tested for their muscular balance by the Maddox rod, or some instrument, such as a Steven's phorometer, supplemented by a small dot of light at the other end of the room, which may be obtained by a minute gas jet, a candle flame, or an incandescent light contained in a small black box, with a round hole in its side, placed underneath the Snellen's test-types. Thus equipped the earnest physician may by much study, patience and practice, become, in time, capable of doing good refraction work.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending July 29, 1905:

Egan, Peter R., surgeon, assigned to duty at Fort Hamilton, N. Y.

Nelson, Kent, asst.-surgeon, assigned to duty at Fort McHenry, Md.

Crabtree, Geo. H., asst.-surgeon, in addition to his other duties, will take charge of, and perform until further orders, those of attending surgeon, New York City, N. Y.

Torney, Geo. H., deputy surgeon general, Brechemin, Louis, deputy surgeon general, Stephenson, Wm., surgeon, appointed members of a board of officers to meet at the Army General Hospital, Presidio, San Francisco, for the examination of such officers of the medical department as may be ordered before it for promotion.

Kennedy, Jas. M., asst.-surgeon, ordered to report in person to Lieut.-Col. Geo. H. Torney, deputy surgeon general, president examining board, Army General Hospital, Presidio, San Francisco, for examination for promotion.

Godfrey, G. C. M., asst.-surgeon, ordered to report in person to Major Wm. H. Arthur, surgeon, president, examining board, Washington, D. C., for examination for promotion.

Quinton, Wm. W., asst.-surgeon, assigned to temporary duty at Army General Hospital, Presidio, San Francisco, until arrival of 17th Infantry at that post, then to accompany the regiment to Fort McPherson, Ga., where he will take station.

Woodall, Wm. P., asst.-surgeon, assigned to duty at the Army General Hospital, Presidio, San Francisco.

Quinton, Wm. W., asst.-surgeon, granted leave of absenene to include the date of arrival of the 17th Infantry in San Francisco.

Ragan, Chas. A., asst.-surgeon, assigned to duty at the Army and Navy General Hospital, Hot Springs, Ark.

Richard, Charles, surgeon, reported for duty at Fort Jay, N. Y.

La Garde, Louis A., surgeon, having reported to the military secretary of the army, in compliance with orders from the governor of Canal Zone, will proceed to Manila, P. I., for duty. Also granted leave of absence for one month, with permission to apply for an extension of one month.

Whinnery, Jean C., dental surgeon, left Fort Egbert, Alaska, for Fort Gibbon, Alaska, for duty.

Warwick, Clarence A., contract surgeon, arrived at San Francisco, for four months' leave of absence from the Philippines Division.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending July 29, 1905:

High, W. E. G., asst.-surgeon, detached from the Naval Training Station, San Francisco, and ordered home to wait orders.

Smith, C. G., P. A. surgeon, commissioned P. A. surgeon, with rank of lieutenant, from April 12, 1904.

Shipp, E. M., surgeon, orders of June 21 modified: ordered to the New York Hospital.

Backus, J. W., asst.surgeon, detached from the *Southery* and ordered to the *Hancock*.

Dabney V., acting asst.-surgeon, detached from the *Culgoa* and ordered to the *Southery*.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ending July 26, 1905:

Sawtelle, H. W., surgeon, granted leave of absence for one month from date of arrival in Washington, D. C.

Wasdin, Eugene, surgeon, to proceed to Mobile, Ala., for special temporary duty in Mobile and vicinity.

White, J. H., surgeon, to proceed to New Orleans for special temporary duty.

Guiteras, G. N., surgeon, to proceed to New Orleans and report to Surgeon J. H. White for special temporary duty.

Young, G. B., P. A. surgeon, to proceed to Jackson, Miss., for special temporary duty.

Corput, G. M., P. A. surgeon, to report to Surgeon J. H. White for special temporary duty.

Goldberger, Jos., P. A. surgeon, to report at Bureau, Washington, D. C.

Richardson, T. F., P. A. surgeon, orders to proceed to Brunswick quarantine station revoked, and directed to proceed to New Orleans and report to Surgeon J. H. White for special temporary duty.

Francis, Edward, P. A. surgeon, to proceed to Mobile, Ala., and report to medical officer in command for temporary duty.

Gustetter, A. L., acting assistant surgeon, granted leave of absence for ten days, from July 25, 1905.

Safford, M. V., acting assistant surgeon, granted leave of absence for three days, from July 22, 1905, under paragraph 210 of the regulations.

Savage, W. L., acting assist.-surgeon, department letter granting leave of absence for thirty days from Aug. 7, 1905, amended to read thirty days from August 15.

Goodman, F. S., pharmacist, to proceed to New Orleans, and report to Surgeon J. H. White for special temporary duty.

Watters, K. H., pharmacist, granted leave of absence for fifteen days from August 7.

VanNess, G. I., Jr., pharmacist, granted leave of absence for thirty days from August 1.

Bierman, C. H., pharmacist, granted leave of absence for fifteen days from July 24.

BOARD CONVENED.

Board to meet at San Francisco, July 27, 1905, for the physical examination of an officer of the Reveune Cutter Service. Detail for the board: Surgeon G. M. Magruder, chairman; P. A. Surgeon J. M. Holt, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the period from July 15 to 22, 1905;

SMALLPOX—UNITED STATES.

California: Los Angeles, July 1-8, 1 case.
District of Columbia: Washington, July 8-15, 6 cases.
Illinois: Chicago, July 8-15, 6 cases.
Indiana: South Bend, July 8-15, 1 case, 1 death.
Louisiana: New Orleans, July 8-15, 4 cases (2 imported).
Massachusetts: Lowell, July 1-8, 1 case.
Michigan: Grand Rapids, July 8-15, 6 cases.
Nebraska: Omaha, July 8-15, 1 case; South Omaha, July 1-8, 1 case.
New Jersey: Jersey City, July 8-16, 1 death.
Ohio: Toledo, July 8-15, 2 cases.
Oregon: Portland, June 1-30, 6 cases.
Pennsylvania: Altoona, July 8-15, 1 case; York, 1 death.
Tennessee: Memphis, July 8-15, 2 cases.
Washington: Seattle, July 1-8, 1 case.
Wisconsin: La Crosse, July 8-15, 1 case: Milwaukee, 15 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, May 27-June 3, 2 cases.
China: Hongkong, May 6-13, 1 case.
Colombia: Cartagena, June 17-24, 1 case, 1 death.
Ecuador: Guayaquil, June 13-20, 1 death.
France: Paris, June 24-July 1, 7 cases.
Great Britain: Birmingham, June 24-July 1, 8 cases; Bristol, 2 cases; Cardiff, 4 cases; London, 1 case.
India: Bombay, June 6-13, 4 cases; Calcutta, June 3-10, 5 cases; Karachi, June 4-11, 8 cases, 2 deaths; Madras, June 3-9, 5 cases.
Italy: Catania, June 22-28, 1 case, one death.
Russia: Moscow, June 10-17, 7 cases, 3 deaths; St. Petersburg, June 22-29, 9 cases.

YELLOW FEVER—FOREIGN

Africa: Goree-Dakar, Maay 31, 1 death.
Ecuador: Guayaquil, June 13-20, 3 deaths.
Guatemala: Livingston, June 21-July 6, 8 cases, 2 deaths.
Honduras: Puerto Cortez, June 8-July 7, 12 deaths.
Panama: Colon, July 2, 1 case.
Venezuela: Maracaibo, June 22, present.

CHOLERA—FOREIGN.

India: Bombay, June 6-13, 1 death: Calcutta, June 3-10, 5 deaths.

PLAGUE—INSULAR.

Hawaii: Hilo, July 17, 1 death.
Philippines: Cebu, May 27-June 3, 2 cases, 2 deaths; Manila, 1 case, 1 death.

PLAGUE—FOREIGN.

Australia: New South Wales: New Castle, May 13-27, 2 cases; Sydney, 3 cases, 1 death: Northern Rivers District, May 6-13, 2 cases, 1 death. Queensland, Brisbane, May 27-June 3, 1 case, 1 death, Ipswich, May 31, 1 death.
China: Hongkong, May 6-13, 17 cases, 12 deaths.
Egypt: General, June 3-10, 3 cases, 2 deaths.
India: Bombay, June 6-13, 188 deaths; Calcutta, June 3-10, 52 deaths; Karachi, June 4-11, 67 cases, 63 deaths.
Japan, Kagama Ken, May 30-June 16, 34 cases; Tokyo, April 18-June 10, 11 cases, 6 deaths.

Society Proceedings

AMERICAN ASSOCIATION OF LIFE INSURANCE EXAMINING SURGEONS.

Sixth Annual Meeting, held in the Imperial Hotel, Portland, Ore., July 10, 1905.

Wish to be Independent of Local Agents—College Teaching Asked.

The following resolutions were passed by the Association:

WHEREAS, The local medical examiner is, under present arrangements, more at the mercy of the local agent than under the protection of the medical department of the company;

Resolved, That the appointment of local examiners should be independent of local agents and the number not added to to suit their desires; *also*,

Resolved, That the examiners' reports should always be sent direct to the home office by the local examiner and not through the agent; *and, further, be it*

Resolved, That in each city there should be one chief examiner and only such alternates as are reasonably required—one to one hundred thousand; all examinations to be made by the chief, if available, and when not the reason to be given and his indorsement obtained before policy be issued.

Be it resolved, That the American Association of Life Insurance Examining Surgeons, assembled in Portland, Ore., in regular annual session, July 10, 1905, urge that each medical college in this country provide for and give in their regular course of instruction a special course of instruction on life insurance examining, it being the desire of this association to advance the knowledge of this particular side of diagnostic work and to prepare the recent graduate for this responsibility.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. H. W. Dewey, Tacoma, Wash.; vice-presidents, Drs. A. S. McDaniel, San Antonio, Texas; M. A. Robison, Victor, Colo.; W. Moore, New York City, and W. T. Ames, Portland, Ore.; secretary-treasurer, Mr. J. G. Monihan, New York City. Next place of meeting, Boston.

Instruction of Students in Examination for Insurance.

Dr. W. B. Cluness, San Francisco, discussed the fact that life insurance companies too often are the victims of errors due to ignorance on the part of recent graduates. Teachers should be impressed with the importance of instructing students in the methods of diagnosing disease in its incipiency. He attached much importance to tact and discernment, which sometimes count more than eminent ability. He would have students taught that life expectancy is the principal feature in life insurance problems, and that there is constantly going on an adverse selection against the company which it is the duty of the medical examiner to minimize to the extent of his ability; and that heredity and environment are the principal elements which determine the longevity of individuals. Students should be taught to give the company facts and not generalities. They should be urged to have the courage of their convictions and report their findings.

DISCUSSION.

Dr. H. W. Dewey agreed that instruction in college for this special work ought to be encouraged. Students should be aided to observe normal as well as pathologic conditions.

Dr. H. G. Brainard, Los Angeles, defined the position of the applicant for insurance and of the patient in the office in their different aspects. The latter, he said, gave many points about himself; the former, knowing that any pathologic condition will cause a higher rate of insurance, tries to prevent such disclosure. This different plane of examination should be impressed on the medical student.

Dr. D. W. Smouse, Des Moines, suggested the sending of a letter to the medical schools of this country to this end.

Dr. W. T. Amos, Portland, thought it possible that many applicants were approved by young physicians because of the persistence of the agent and because the young physician needed the money. The young men feel that they are getting no real support from the home office and consequently disregard the instructions of care in the matter of risks.

Collision or Collusion.

Dr. W. T. Amos, Portland, explained his reluctance in writing on a subject which seemingly criticises the insurance companies for which he examines, but in consideration of existing conditions he felt it was to the best interest of all concerned that the matter be brought up of the non-support by the medical directors of the local examiner which resulted in collision between the agent and examiner with the working of injustice to the examiner, or a collusion between the agent and examiner with the working of hardship on the company. He analyzed the modus operandi by which this collusion grew, unconsciously to the examiner, between the agent and examiner. He hinted at the great desire of the insurance companies to get business, good business if possible, but business anyway. He intimated that the medical directors in their instruction to the local examiners cautioned them to be careful to a degree to which they did not expect the examiners to conform. He spoke highly of his opinion of the integrity of physicians as a class but could not see how they could be blamed for receding from the high standing supposed to be set by the medical directors when they see the easy examiners getting all the business.

We Can Do Better Work for Our Companies. Do They Want It?

Dr. **William Moore**, New York, regarded the chief causes which prevent the companies obtaining the best services of the medical examiners, and the latter receiving their rewards to be: 1. The indifference of all the officials, except the medical director, to the examiners' welfare. 2. Poor pay and unnecessary multiplicity of examiners. He suggested the following remedies: 1. The medical report should call for no expression as to the insurability of the risk. 2. A confidential opinion, whenever the original report is to pass through the agent's hands, should be sent direct by the examiner to the medical director. 3. Examiners should be salaried, or a chief and alternate system be adopted with a penalty for its violation, to be paid by the agent, should he employ other than the chief, when available.

DISCUSSION.

Dr. **W. O. Bridges**, Omaha, believed that until the medical director has absolute authority to make and to stand by an examination regardless of the business end, there would be difficulty. He regretted that there were few companies in this country who leave the principal part of the business in the hands of the medical director. The multiplicity of examiners is also responsible for much trouble. The only redress open to the medical examiners is to turn against those companies which will not protect them.

Dr. **E. S. Clark**, Sumas, Wash., thought there should be more safe risks and until examinations are conducted with this view the trouble will not be overcome.

Dr. **A. S. McDaniel**, San Antonio, said that it has been his rule to make an honest report. While he has gained the confidence of his company, his income has decreased. He finds that other examiners have come in and for some reason they get the greater number of fees.

Dr. **M. A. Robison**, Victor, Colo., asked whether an examiner was justified in reporting an absolutely poor risk to a company regarding an examination made by another examiner. The case in point was that of a man who had been recommended, but died within one week. Dr. Robison had been familiar with the condition before the insurance was issued and inquired whether he would have been justified in interfering with another's business.

Dr. **H. G. Brainard**, Los Angeles, said that with most of the insurance companies the medical department was a kind of fifth wheel, which the company requires, but which is dominated by the business end of the concern. In his company the effort is made to have the examination papers sent direct from the examiner to the home office. He felt that the difficulty in question is one which can not be avoided until the examiner is made supreme in his own field. He called attention to the fact that insurance may be given to any man if a sufficient rate is charged; for instance, the man who dies next week may be insured if the rate is right. Because a man is not a first class risk, it does not follow that he should be debarred.

Dr. **H. W. Dewey**, Tacoma, remarked that theoretically the medical examiner is responsible to the medical department, but that practically he is much more responsible to the agent. He has in his office a scale and measuring rod which he has found keeps business away from him. Agents have told him that they do not want the exact height and weight of a man who is anywhere near the limit. Another cause of difficulty is the multiplicity of examiners; the agent picks out the most lenient. With reference to interfering in the matter of a poor risk, he thought it would be a clear case of "butting in."

Dr. **S. F. Sanders**, Holdredge, Neb., spoke in protection of the medical director, who is not entirely responsible for the appointment of the agent. He thought benefit would result to the insurance companies if attention were paid to the matter along the lines suggested in the papers.

Dr. **Amos** wanted it clearly understood that he was not under the second class of the heading of his paper. While he has been fairly successful, he has not made much money in the insurance business. He believes that an examiner should "butt into" the poor risks that have been accepted by other physicians.

(To be continued.)

PHILIPPINE ISLANDS MEDICAL ASSOCIATION.

Second Annual Meeting, held at Manila, March 1-4, 1905.

Under the Presidency of Dr. J. R. McDill.

The second annual meeting of the Philippine Islands Medical Association was convened in the library of the Bureau of Government Laboratories, Manila, P. I., March 1, 1905. The address of welcome was delivered by the Hon. D. C. Worcester, Secretary of the Interior. The address of the President, Dr. J. R. McDill, was on "The Status of Medical Affairs in the Philippine Islands," and will appear in full in The Journal. The meeting was an interesting and profitable one. Wednesday evening the past and present officers and guests of the association were guests at a banquet by the president, Dr. McDill. Friday evening another banquet was given by Dr. R. P. Strong. On Saturday evening the members of the association gave a banquet at the Army and Navy Club, where their guests of honor were the visiting physicians, the governor-general, and the members of the Philippine Commission.

Officers Elected.

The following officers were elected for the ensuing year: President, E. C. Carter; vice-presidents, V. G. Heiser and R. Cuervo; secretary-treasurer, R. E. L. Newberne; councilor, R. P. Strong; delegate to the American Medical Association, W. E. Musgrave.

Report of Secretary.

The secretary reviewed the history and work of the association, and gave the following information with reference to the profession in the islands: Total population, 7,635,426; total number of physicians, 360; practicantes, 131; midwives, 21; ratio of physicians to population, 1 to 21,209; number of physicians in Manila, 217; ratio to population, 1 to 1,013. Last year the death rate among physicians was greater than the supply. There is not a single modern available hospital nor a modern institution for medical teaching in the islands. The Manila Medical Society is the only subsidiary society.

Public Policy and Legislation.

This committee reported on the efforts made to secure a charter for the association, a law for the regulation of the opium traffic and to relieve, to some extent, the unsatisfactory conditions due to the scarcity of physicians in the islands, and at the same time to improve the present service. The committee also considered the establishment of a university of the Philippines to consist of an undergraduate school, a college of applied sciences, engineering, medicine, law, languages and philosophy, and recommended a plan of organization.

Papers Read.

The papers read and those accepted in the absence of the authors included the following:

[illegible] "Social Diseases," by Paul Clements;
[illegible] *Johnson*; "A Search into the Nitrite
[illegible] Peptone, with Special Reference to
[illegible] ation of the Indol and Cholera Red
[illegible] rry; "Glaucoma Among the Friars,"
[illegible] " by *V. G. Heiser*; "The Episcopal
[illegible] re of the Indigent," by C. R. John-
son; "Control of Tuberculosis," by D. M. Appel; "Address on State Medicine," by E. C. Carter; "Measles in the Tropics," by Rudecindo Cuervo; "Results of Cold Irrigation as Compared with Warm Irrigations in the Treatment of Gonorrheal Urethritis and Endometritis," by E. C. Shattuck; "Symptoms, Diagnosis and Prognosis of Uncomplicated Intestinal Amebiasis (Amebic Dysentery) in the

Tropics," by W. E. Musgrave; "Medical Department of Bilibid Prison and some of the Diseases among the Prisoners," by W. R. Moulden; "San Juan de Dios Hospital," by R. E. L. Newberne; "Metropolitan Police Medical Service," by A. T. Short; "Dentition in Relation to the Excessive Infant Mortality in Manila," by Louis Ott [illegible] Medical History of the Civ [illegible] J. B. Thomas; "Address cn [illegible] ure of the Aged and In- firm [illegible] edical Laboratory Work in t [illegible] now offered for Future Wo [illegible] ine," by Tee Han Kee; "Hi [illegible] is," M. Herzog; "Observations on Relapsing Fever," by Koch of Hongkong; "Military Medical Service in the Philippine Islands," by C. Richard; "Infant Mortality," by Louis de C [illegible] by J. D. Long; "Some Unpublished [illegible] tis in the Philippine Islands," by J. [illegible] Bacilli," by E. H. Ruediger; "Histor [illegible] Islands," by A. Bautista; "Medical Laws, Customs and Practices in the Philippine Islands," by J. Maye; "Pathology of Intestinal Amebiasis," by P. G. Woolley and W. E. Musgrave; "Bronchopneumonia in Cattle, Its Relation to Infection and Bacillus Bovisepticus," by P. G. Woolley and W. Sorrel; "New Variety of Granuloma in Cattle Clinically Resembling Lumpy Jaw," by P. G. Woolley; "Sarcoma of the Ciliary Body," by P. G. Woolley.

Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns.]

Treatment of Asthma.

Dr. G. Avellis, in an abstract in the *Jour. Am. Med. Sciences*, divides the antiasthmatics into four classes:

1. The preparations of stramonium and the nitrites.
2. The iodids.
3. The preparations of atropin.
4. Those substances which may be made up for inhalation.

When the attack of asthma is terminated by an abundant secretion of mucus the iodids are to be used.

When there is little secretion, even when there is cough, the iodids are useless and the preparations of belladonna should be used. The cases benefited by the iodids are more common than those in which belladonna preparations are of service. Fumigations are especially effective in children at the beginning of attacks early in the night. Their habitual use should not be encouraged.

The foregoing remedies are of value in asthma when the attacks are seldom and are separated by intervals of entire freedom from symptoms, but in that form of asthma in which the respiration is never free from râles, with more or less constant dyspnea, and no secretion of mucus, other therapeutic measures must also be employed.

In spasmodic asthma some authorities recommend a combination similar to the following:

℞.	Tinct. belladonnæ	ʒi	4
	Spts. camphoræ	ʒii	8
	Kalii bromidi	ʒiiss	10
	Elix. simplicis q. s. ad	℥iv	120

M. Sig.: One tablespoonful to be taken at the *commencement* of the paroxysm and the dose repeated in four hours, if necessary. Or:

℞.	Ext. grindelia rob. flu	ʒi	4
	Tinct. belladonnæ	ʒi	4
	Strontii bromidi	ʒii	8
	Elix. simplicis q. s. ad	℥iii	90

M. *Sig.*: One tablespoonful at a dose and repeated in four hours if required.

Lobelia is sometimes of service in conjunction with other antispasmodics as follows:

℞.	Tinct. lobeliæ		
	Tinct. belladonnæ, āā	ʒii	8
	Elix. simplicis q. s. ad	℥ii	60

M. Sig.: One teaspoonful every four hours until relieved.

The iodids, if necessary, may be combined with other antispasmodics as follows:

℞.	Kalii iodidi	gr. lxxv	5
	Tinct. belladonnæ	*ʒiiss*	*10*
	Syr. aurantii q. s. ad	℥ii	60

M. Sig.: One teaspoonful three or four times a day in water.

Treatment of Status Epilepticus.

The following are the most common causes of status epilepticus, according to K. Alt in *Med. News*: Constipation, with absorption of toxic products from the intestinal canal, alcohol, morphin, sexual excesses or nervous irritation, extreme heat from sun's rays, sudden withdrawal of the bromids. An exacerbation of the disease may also be noticed after an acute illness during which the patient is free from convulsions.

The first thing to be done in the way of treatment, according to this author, is to empty the bowels thoroughly by means of a high enema and calomel. This treatment alone will frequently cause the condition to subside by clearing the intestinal canal of all putrefactive material. The bromids are of but little value, as their action is too slow.

Chloral hydrate in thirty-grain doses (2.00), is an excellent medication when the pulse is strong. With cardiac weakness from ten to fifteen drops of the tincture of strophanthus should be added to the enema. In very severe cases the only means of controlling the convulsions is chloroform, which can be combined with oxygen. Should the temperature be high the patient may be placed in a cool bath, and in full-blooded individuals with acetonuria venesection followed by a saline infusion is indicated. Acetonuria, according to this author, is not uncommon in the epilepsy of general paresis, but is rare in genuine epilepsy.

Acne Vulgaris.

As to the causes of acne vulgaris, W. Kenneth Wills, in *Bristol Med.-Chir. Jour.*, regards dyspepsia and constipation as of the most importance, along with the lack of fresh air and exercise, and with an unsuitable dietary. Anything which causes the skin to flush has a harmful action on acne. Too hot drinks are the commonest offenders, while alcohol, mustard, pepper and spices, pork, pickles, and pastry should all be eliminated from the diet. Fats are not good, as they aid in the formation of sebaceous secretion and they should be cut to a minimum, particularly pork and bacon.

After the removal of the predisposing causes the local condition should receive attention, such as:

1. The removal of the fat from the skin.
2. The destruction of irritating micro-organisms growing in the fat.
3. The enucleation of comedones and pustules.
4. The maintenance of the best possible hygiene of the skin.

To remove the superfluity of grease from the skin hyperemia must also be reduced. For this purpose ichthyol, internally and externally, is recommended. Some alkaline medium applied externally with friction is of value, using an alkaline soap. After the friction with the alkaline soap some mild antiseptic should be used, at the same time preventing undue hyperemia. Sulphur and ichthyol are regarded as sufficient in inhibiting the growth of micro-organisms. When pustules are present an incision should be made to prevent pock marking.

The author recommends *x*-rays as an agent of value in stimulating the growth of normal cells and in promoting the absorption of granulomatous tissue. The good results from this treatment are not necessarily permanent, but having got rid of the trouble for a time, the skin may be kept freer in the future and can be kept clear from infection. Yeast sometimes acts well in these cases, presumably by rendering the soil unsuitable for the growth of the bacilli.

Whitfield, in the *Med. Practice*, edited by Bain, recommends the extrusion of the comedones by means of Unna's comedo extractor after thoroughly softening the face with soap and hot water. In very obstinate cases frequent scaling of the skin with strong resorcin pastes is recommended. The following ointments are recommended by him for local application:

℞.	Sulphuris precip.	ʒss	2	65
	Acidi salicylici	gr. x		
	Parafinni mollis *q. s. ad*	℥i	30	

M. Ft. unguentum. Sig.: Apply locally night and morning. Or:

℞.	Sulphuris precip.	ʒss	2	30
	Hydrarg. bisulph	gr. xx	1	
	Saponis mollis	ʒii	8	
	Paraffini mollis q. s. ad	℥i	30	

M. Ft. unguentum. Sig.: Apply locally to the face only for three successive nights in the week. Or:

℞.	Resorcin	ʒii	8	
	Zinci oxidi			
	Pulv. amyli, āā	ʒi	4	
	Paraffini mollis	ʒiv	15	

M. Ft. unguentum. Sig.: To be applied to the face for three successive nights in the week.

As lotions the following are recommended:

℞.	Sulphuris precip.	ʒiss	6	
	Calaminæ prep.	ʒvi	24	
	Spts. vini rectif	℥ii	60	
	Glycerini	ʒii	8	
	Aq. calcis q. s. ad	℥viii	240	

M. Ft. lotio. Sig.: To be applied locally to the face. Or:

℞	Resorcini	ʒiss	6	
	Hydrarg. perchloridi	gr. ii		12
	Spts. odoratus	ʒii	60	
	Glycerini	ʒii	8	
	Aquæ dest. q. s. ad	℥viii	240	

M. *Ft. lotio. Sig.: To be applied locally for acne involving* the scalp.

The following local application containing ichthyol is recommended by some authorities:

℞.	Ichthyol	gtt. x		65
	Sulphuris precip.	gr. xii		75
	Zinci oxidi	ʒi	4	
	Lanolini q. s. ad	℥ss	15	

M. Ft. unguentum. Sig.: Apply locally.

Pruritus Ani.

L. H. Adler, in *Amer. Med.*, states that 95 per cent. of the cases of pruritus ani occurs in males. In nearly all the cases the patients are neurotic and of a decidedly bilious temperament. The treatment requires the removal of the cause, the regulation of the patient's habits of life and attention to local treatment. The latter consists in a daily injection into the rectum of the following:

℞.	Ext. hamemelidis	℥i	30	
	Ext. ergotæ flu.	ʒii	8	
	Ext. hydrastis flu.	ʒii	8	
	Tinct. benzoini co.	ʒii	8	

M. Sig.: One to two and a half drams to be injected into the rectum once daily.

If the perineal skin is dry and tough, the entire surface should be painted with a concentrated solution of silver nitrate (grains 96 to the ounce). This application may have to be repeated several times to restore the skin to normal. After this is accomplished the citrine ointment should be applied in full strength and renewed once daily for fourteen or fifteen days, and then from three times to twice a week. The treatment may have to extend over a period of several months.

Acute Cystitis.

The following is recommended in the treatment of acute cystitis accompanied by pain and hemorrhage:

℞.	Morphinæ acetatis	gr. iv		25
	Tinct. veratri viridis	ʒi	4	
	Tinct. hyoscyami	ʒii	8	
	Syr. zingiberis	℥i	30	
	Aquæ q. s. ad	℥iii	90	

M. Sig.: One teaspoonful in water every four hours.

As a suppository in such cases to be used instead of the foregoing the following is of service:

℞.	Pulv. opii	gr. x		65
	Pulv. camphoræ	ʒss	2	
	Ext. belladonnæ	gr. iii		20
	Olei. theobrom q. s.			

M. Ft. suppos. No. vi. Sig.: One to be inserted at bedtime.

Medicolegal

Finding of Fatal Quantity of Arsenic Not Required.—The Supreme Court of Pennsylvania says, in the homicide case of *Commonwealth vs. Danz,* where the body was exhumed after an elapse of between eight and nine months and arsenic and antimony were found in various organs, that it is not incumbent on the commonwealth to prove that a quantity of poison sufficient to cause death was found in the body before a jury can be allowed to find that it was the cause of death, if the evidence sufficiently establishes the fact that the poison alleged to have caused death did kill the deceased. If the law were different, murderers by arsenic would often escape.

Friendly Examination Not a Consulting of Physician.—The United States Circuit Court of Appeals, Ninth Circuit, says, in Mutual Reserve Life Insurance Company of New York vs. Dobler, that an applicant for life insurance was asked when he had last consulted or been attended by a physician. His answer was: "Do not remember; years ago." The only evidence was that a physician who was his friend made, at intervals, physical examinations of him to ascertain the condition of his health, and that this was done, not at the instance of the insured, but on the physician's own initiative, without charge, and for the sole purpose of rendering a friendly service. The court holds that it would be a misuse of words as they are ordinarily understood, and especially as they were employed in the application for insurance, to say that, in so submitting himself to those examinations, the insured consulted a physician or was attended by him.

Compensation of Physicians as Expert Witnesses.—The Supreme Court of Nebraska holds, in the case of Main vs. Sherman County, that one testifying as an expert on a subject requiring special knowledge and skill, in the absence of a special contract, is entitled only to the statutory fee. This action was brought by a duly licensed physician who had been called by the prosecution and had testified as an expert witness in a prosecution for homicide in the district court of the defendant county, and had been paid the statutory witness fees. He claimed that he was entitled to additional compensation because his testimony was not that of an ordinary witness, but such as required special knowledge and skill. A demurrer filed to his petition was sustained. The Supreme Court Commissioners say that they are fully aware that the authorities are divided on this question, but think it hardly accurate to say that the authorities are nearly evenly balanced. On careful examination of the authorities it will be found that, *after the elimination* of the cases resting on peculiar constitutional or statutory provisions and on local customs, the decided weight of authority supports the conclusion reached in this case. The following are some of the cases sustaining this conclusion: Dixon vs. People, 168 Ill., 179; Flinn vs. Prairie County, 60 Ark., 204; Ex parte Dement, 53 Ala., 389; State vs. Teipner, 36 Minn., 535; Summers vs. State. 5 Tex. App., 365; Larimer County Comm. vs. Lee, 3 Colo. App., 177. It has been held that the state may require the services of its citizens without compensation. Bennet vs. Kroth, 37 Kan., 235; West vs. State, 1 Wis., 209; Ex parte Chamberlain, 4 Cow., 49. Nor do the commissioners think the rule embodied in that conclusion so oppressive as it might appear at first glance. They say that the benefits of civil government of necessity carry with them certain duties more or less onerous to the citizen. It not infrequently happens that the citizen is compelled to serve the state at a pecuniary loss. When an officer armed with a warrant commands the assistance of a citizen in making an arrest, the latter, however valuable his time, is not permitted to stand and bicker for fees: when called to serve as a juror, a citizen will not be heard to complain that the compensation fixed by law is inadequate. As to compensation in such matters, the scale is fixed without regard to calling or countenance, and the common laborer and the man of large affairs, rich and poor, learned and unlearned, are on equal footing. As was said in the Dement case, above cited: "The administration of justice being a source of mutual benefit to all the members of a community, each is under obligation to aid in furthering it as a matter of public duty, and every competent citizen may be summoned by due process of law to appear and render personal services in court without right on his part to a special compensation for so doing. His time is claimed by the public as a tax paid by him to that system of law which protects his rights as well as those of others." For these reasons the Supreme Court affirms the judgment of the District Court in favor of the defendant county, holding as first above stated.

Liability of Town for Emergency Attendance on Pauper.—The Supreme Court of Minnesota holds, in the case of Robbins vs. Town of Homer, that, where the town supervisors are required to provide for the care and support of the poor therein, and have no regular physician to attend its paupers, and a pauper suffers from an accident which requires the immediate attention of a surgeon, who renders services to relieve the necessity, he may recover reasonable compensation from the town, although he had not been requested by the authorities to attend the patient. The court says that in Chapter 172 of the Laws of Minnesota of 1899 it is prescribed that county physicians shall be appointed by the county commissioners to attend on the poor when necessary; and it was therein specifically provided that, in case of emergency, where any poor person had become a county charge, and should be suddenly injured or afflicted, and so require immediate treatment before the arrival of the proper county physician, any reputable or duly licensed surgeon who should prescribe for or treat such injured or afflicted person might receive compensation from the board, with added provisions for notice by the emergency physician. Then follows a further proviso that this act shall not apply to counties caring for the poor by the township system. The view, however, is not to be tolerated, under well-settled constitutional limitations, that a class distinction in behalf of counties and to discriminate as to towns was created by this proviso. The most that can be said of this legislation relative to county physicians is that it is an indication of the policy of the state to provide for an apparent and reasonable requirement to protect the unfortunate poor where injury and sudden sickness may prevent the attendance of the regularly appointed physician whose duty is to look after the unfortunate charges of the state, and without any such statute the reason therefor is plain and apparent. The impulses of humanity, the dictates of natural justice, as well as the pecuniary interest of the municipal body on whom the duty is imposed, demand that, where the officials having charge of the poor are unable to act in a case of pressing urgency, the course indicated ought to be pursued, and should be justified, if it can be done on any reasonable legal grounds. The county or town must provide for the unfortunate pauper who has met with an accident requiring instant succor as soon as may be. To decline this mandate of humanity and duty wilfully by those on whom it is imposed would subject such officials to prosecution for misconduct in office. If the poor person in question in this instance had died, and the supervisors had been absent, the court has little doubt that a person providing for his burial would have a legal claim against the town; and, on the same reasons, why not a physician whose ministrations in a pressing emergency seek to avoid what may result in his death? The supervisors on whom the duty to secure the physician was imposed under legal as well as moral obligations had not provided for the same, and the court has no doubt that it should be held that the physician who immediately answered the call of emergency, perhaps to save life, or diminish the increase of expenditures against the public, would have a valid claim for compensation.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

July 22.

1 *Vicarious Action of the Bowels for the Kidneys in Tuberculosis. L. F. Flick and J. Walsh, Philadelphia.
2 *Bacterial Toxins and Immunity. V. C. Vaughan, Ann Arbor, Mich.
3 What Cases Are Suitable for Admission to a State Sanatorium for Tuberculosis, Especially in New England? H. C. Clapp, Boston.
4 Relapsing Fever: Its Occurrence in the Tropics and Its Relation to "Tick Fever" in Africa. F. C. Wellman, Angola, W. Africa.
5 *Syphilitic Spirochetes in Cerebrospinal Fluid. A. Gordon, Philadelphia.
6 Management of Epilepsy. T. P. Prout, New York.
7 *The Surgeon and the Pathologist. J. C. Warren, Boston, Mass.

1. **Vicarious Action of Bowels for Kidneys in Tuberculosis.**—It has long been recognized that in certain cases of tuberculosis there is a looseness of the bowels which is not due to ulceration. This looseness has been termed an irritative diarrhea and has been ascribed to errors in diet. When it has occurred in cases which have come to autopsy the bowels have been found free from ulceration and apparently in a healthy condition. A careful study of a number of cases which were under observation for a long time clinically and which came to autopsy led Flick and Walsh to believe that in these cases the looseness of the bowels is due to a vicarious action of the bowels for the kidneys and that nature is really trying to protect the system by this vicarious action. In all of the cases—11—there was severe diarrhea, usually over a protracted time. In all, the intestines were found normal and the kidneys were found to have undergone acute alterations. In three cases out of the eleven the autopsy showed the ileum slightly congested; in all the remaining cases the intestinal tract, with the exception of the appendix, was normal. Several forms of nephritis were found, toxic nephritis, parenchymatous nephritis, diffuse nephritis and interstitial nephritis. In seven cases out of the eleven there were scattered tubercles in the kidneys. The authors have found magnesium sulphate and nitroglycerin of greatest use in the treatment of this complication. When the bowels are very loose, .78 gm. (12 gr.) doses of magnesium sulphate every hour will lessen the number of stools. When the bowels are costive the magnesia will greatly improve the general condition. Sometimes patients begin to gain in weight under the use of magnesium sulphate who have done badly before. Opiates should never be used in these cases.

2. **Bacterial Toxins and Immunity.**—The theory on which Vaughan's work is based assumes that the bacterial cell is, in its essential part, a chemic compound made up of many groups. The endeavor in this work has been to split up the cell molecule of the colon bacillus into its constituent groups and to study the physiologic action of these groups. The result of the work has been to show: (a) That the colon bacillus even when grown on proteid-free mediums contains a highly poisonous group and that animals treated with repeated doses of this group have their resistance to living cultures of the colon bacillus multiplied from two to four times; (b) that a group similar to that mentioned can be obtained from egg albumin and pepton and that animals treated with this also show increased resistance to the living bacillus; (c) that animals treated with successive doses of that portion of the colon cell left after the removal of the poisonous group acquire a specific immunity to the colon bacillus; (d) that the blood serum of animals treated with either the poisonous group or the nonpoisonous group of the colon bacillus does not agglutinate the living colon bacillus; (e) that cultures of the colon bacillus contain a fatty acid which either as a free fatty acid or as a neutral soap dissolves red blood-corpuscles.

5. **Syphilitic Spirochetes in Cerebrospinal Fluid.**—The object of Gordon's investigation was to determine whether the newly discovered spirilla of Schaudinn and Hoffman are present in the fluid which is in immediate contact with the nervous tissue. If so, it would be directly indicated to inaugurate a treatment of those multiple nervous lesions caused by syphilis by introducing into the cerebrospinal fluid mercury and iodid. Gordon examined the cerebrospinal fluid in 8 cases of multiple lesions of brain and cord which developed many years after the initial chancre and 2 patients in the primary stage of syphilis. Although the results were negative, the researches are nevertheless important from the standpoint of the pathogenesis of parasyphilitic affections.

Medical Record, New York.

July 22.

8 *Influence which the Acquisition of Tropical Territory by the United States Has Had, and is Likely to Have, on American Medicine. G. Blumer, San Francisco.

9 *Sea-Air Treatment of Surgical Tuberculosis. C. Wallace, New York.
10 *Prevention and Management of Summer Diarrhea Among Tenement Children. C. G. Kerley, New York.
11 *Treatment of Acne. C. M. Williams, New York.
12 *Treatment of Pertussis in Relation to Etiologic Factors. J. B. Tyrrell, Waterville, Minn.
13 Mental Symptoms of Neurasthenia. E. L. Hunt, New York.

8.—See The Journal, July 15, 1905, p. 169.

9. **Sea Air Treatment of Surgical Tuberculosis.**—Wallace's report was prepared for the purpose of acquainting the profession with the progress of the work carried on at Sea Breeze, Coney Island, an experimental hospital for the sea-air treatment of surgical tuberculosis. Forty-three patients have been under treatment in the hospital, and in selecting them the management did not make it a rule to take only incipient cases in such desperate condition that their improvement alone could leave no doubt as to the efficacy of the treatment. There are four factors in the treatment, namely: (1) Sea all night and day. (2) Cheerful, normal surroundings. (3) Ample, nourishing food. (4) Orthopedic treatment. The children get all the sea air possible; rain or shine they are out of doors the entire day except for two hours in a tent school on the beach, and at night they sleep in wards where all of the windows are open during even the coldest weather, 12° F. being not an uncommon temperature here in winter. They are amply protected against the cold by many blankets, and wear warm hoods and jackets over flannel night gowns, also mittens and woolen bed slippers. The same rule about open windows prevails in the dining hall. The patients in the non-ambulatory class spend their days in bed on the second floor veranda. Under all this radical treatment the children are happy and comfortable. After a few days of gradual acclimatization they become accustomed to the outdoor life and do not mind the cold. There has been only one slight case of bronchitis, and coughs and colds are unknown. The dietary is abundant and of the best. As to orthopedic treatment, the methods are the same as those in general use. The results obtained at the hospital have been very gratifying.

10. **Prevention and Management of Summer Diarrhea Among Tenement Children.**—Kerley says that the reduction of the large infant mortality during the summer is to be accomplished by the education of the mothers and by the possibility of their procuring a reasonable pure milk supply, the latter to be effected by the establishment of numerous milk depots throughout the tenement districts under the management of the health department. Kerley's standing order in every household of children is as follows: With the first appearance of intestinal derangement give two teaspoonfuls of castor oil, and stop milk. Give barley water or rice water until further advised by the physician. The further treatment is simple. The child should be kept as quiet as possible and in the coolest room in the house, and the quarters as spacious as are to be had. Boiled water is given as a drink, and frequent spongings during the very hot days are advised. The cereal water, plain or dextrinized, is to be continued until the acute symptoms have subsided in large measure, regardless of the age of the patient. Barley water or rice water is given in the strength of one-half ounce of the cereal to the pint of water. When milk is resumed it is given skimmed, in small quantities, in cereal water; never more than a half ounce in the feeding. Condensed milk given in amounts of from one-half to one dram in a feeding of cereal water is often well digested when fresh milk would not be. The author's experience is that just four drugs may be relied on in diarrhea, and these are calomel, castor oil, bismuth, and opium. Bismuth must be given in large doses to be of service, and opium must be used with care, is best given in the form of Dover's powder. The technic of and indications for irrigation of the colon are described, and it is stated that the measure should not be used indiscriminately. Kerley never washes out the colon oftener than once in twelve hours, and usually once in twenty-four hours suffices. In conclusion it is urged that the matter of prophylaxis be taken by the municipal government.

11. **Treatment of Acne.**—Williams urges both local and general treatment, and the necessity for thoroughness in the search for and correction of all possible predisposing causes, and for minute detail in all efforts at treatment, is particularly emphasized. Of the predisposing causes indigestion with constipation, diseases of the sexual organs, the scrofulous type, and anemia are mentioned as especially important and their treatment when complicated by acne is outlined. The local measures are, however, the most important, and the hygiene of the skin is described in detail. Of topical applications, after the irritated skin has been soothed by the use of bland lotions like milk of magnesia diluted, stronger preparations, of which the basis is usually sulphur and of which lotio alba is a useful example, are to be employed. The treatment also includes the expression of comedones, incision of indurated or sluggish nodules, etc., and the minutiæ of these various phases are fully described. The author urges the adoption of a single drug as a main reliance and study of its possibilities, rather than shifting from one thing to another in the hope of finding a panacea, which does not exist. As the morococcus, which is responsible apparently for most of the inflammation and suppuration in acne, is exceedingly common if not universal in dermatitis seborrhoica, treatment of the scalp should go hand in hand with the other measures.

12. **Treatment of Pertussis.**—Tyrrell believes that prophylaxis is the first essential and entails avoidance of contact with whooping-cough patients; schools and kindergartens being closed during severe epidemics. Disinfection of sputa and excreta is advisable, and good results in cutting short the disease have been reported by fumigation of the patient's room with sulphurous acid. Of the drugs to be used, quinin stands foremost and it may be given three times a day, as many decigrams as the child is years old, or as many centigrams as it is months old. Camphor is useful, but the coal-tar products are less favorable than quinin and are frequently dangerous. Careful dieting is necessary, and it is desirable to give small amounts of concentrated food at short intervals to avoid overflowing the stomach. For the paroxysms, belladonna and opium, and moral suasion are advocated. The author reports encouraging results attending the use of the elastic abdominal belts recommended by Kilmer for the purpose of controlling vomiting and reducing the number and violence of the paroxysms.

New York Medical Journal.

July 22.

14 Operative Surgery at the Mayo Clinic. R. Hill, St. Louis, Mo.
15 Value of the Recognition of Errors of Refraction in Functional Diseases of the Nervous System. E. D. Fisher, New York.
16 Fulminating Peritonitis Complicating Pregnancy; Due to Ruptured Pus Tube at Eight and One-half Months; Cesarean Operation; Death. P. B. Bland, Philadelphia.
17 *Private House Operations. Preparation and After-Treatment of the Patient; Preparation of the Rooms, etc. C. H. Richardson, Pittsfield, Mass.
18 *Rapid Healing in Septic Cases, Including the Use of Iodoform Wax in Bone Cases. A. T. Mann, Minneapolis.
19 Case of Lithemic Gangrene. A [illegible] Haig's Uric Acid Theory. N. Rosewater, [illegible]
20 Congenital Absence of the Kidne[illegible] Washington, D. C.

17. **Private House Operations.**—Richardson does not discourage sending patients to a hospital for operation, but there are so many cases, particularly in women, in which circumstances render it next to impossible to be away from home for the required length of time, that they drag out a miserable existence which a relatively simple operation, almost devoid of danger, would rectify. In cases requiring a great deal of help during the operation, such as large fibroid tumors, or cases which may require prolonged after treatment in the line of dressings, etc., and in patients whose homes are uncleanly, a hospital is far and away the better place to have the operation performed, but the idea that an asceptic operation cannot be performed in an ordinary dwelling is certainly a great error.

18. **Healing in Septic Cases; Iodoform Wax in Bone Cases.**—Mann is convinced that in thorough removal of septic tissues, and in the use of strong carbolic acid followed by alcohol, we have powerful agents which allow us to prepare many septic conditions for rapid healing, and in subacute and chronic processes very often for healing by first intention. He also believes that in the iodoform wax we have an admirable sub-

stitute for iodoform packing, bone-chips, and healing by blood clot, one which makes convalescence smoother and shorter, and which in some cases enables us to gain results which are impossible by the usual methods.

Medical News, New York.

July 22.

21 *Clinical Features of the Benign Stenosis of the Pylorus. H. L. Elsner, Syracuse, N. Y.
22 *Relations of Some of the Metabolic Diseases to Intestinal Disorders. T. B. Futcher, Baltimore, Md.
23 *Immediate Effect of Biliary Retention on the Secretory Function of the Stomach. J. Friedenwald, Baltimore, Md.
24 Sulphonated Guaiacol Compounds. H. C. Jackson and G. B. Wallace, New York.
25 Men We Lost. S. J. Meltzer, New York.
26 Future of the Laryngoscope and the Study of Laryngology. J. N. Mackenzie, Baltimore, Md.

21. **Benign Stenoses of Pylorus.**—Elsner discusses those abnormalities, benign in character, within or without the stomach, which block its outlet sufficiently to interfere in any degree with the emptying of that organ or otherwise disturb its functions.

22. **Relation of Metabolic Diseases to Intestinal Disorders.**—Futcher reviews some of the main facts concerning these diseases, particularly alkaptonuria, ochronosis, and cystinuria.

23. **Immediate Effect of Biliary Retention on Secretory Function of Stomach.**—An examination of 11 cases of which 8 were cases of catarrhal jaundice, one of hypertrophic cirrhosis of the liver and 2 of cholelithiasis, leads Friedenwald to conclude that in conditions of biliary retention there is a marked tendency to an increase in the secretion of the hydrochloric acid of the gastric secretion. The gastric contents were examined for the total acidity by titration with one-tenth normal sodium hydrate solution, using phenolphthalein as an indicator; the percentage of free hydrochloric acid was determined in some cases by means of Mintz's method, in others by Töpfer's method. The cases of catarrhal jaundice were mild forms, running their course in five or six weeks.

Boston Medical and Surgical Journal.

July 20.

27 Facts and Fancies About Mind and Body. C. A. Drew, Bridgewater, Mass.
28 *Actual Results of Cerebral Surgery at the Massachusetts General Hospital. E. A. Codman, Boston.
29 *Results of Brain and Cord Surgery at the Massachusetts General Hospital. J. J. Putnam, Boston.
30 *Results in Nontraumatic Surgery of the Brain at the Boston City Hospital. W. M. Bullard, Boston.
31 Three Cases of [illegible] Operated on by J. C. Warren. By W. B. [illegible]
32 Operations for Ce[illegible] Boston City Hospital. F. B. Lund, Boston.
33 Operability of Brain Tumors from the Point of View of Autopsied Cases. G. L. Walton, Boston.
34 Operation for Cerebral Abscess. F. L. Jack, Boston.
35 Two Cases of Typhoid Fever, with Acute General Peritonitis. C. L. Scudder, Boston, Mass.

28. **Cerebral Surgery.**—Codman reports on the actual results of cerebral surgery at the Massachusetts General Hospital. Operations were done in 28 cases for the removal of a tumor or to relieve pressure symptoms. Seven patients died, 11 showed no improvement, 7 were improved, 3 could not be traced. Eight patients were operated on solely for the relief of pressure symptoms; 4 died, 2 showed no improvement, 2 could not be traced. For the relief of epilepsy, 21 patients were operated on; 9 improved, in 12 no improvement. For drainage of cerebral abscesses, 6 patients were operated on; 5 died, 1 showed no improvement. Codman says that the chance of any success by radical operation is so small, that in any given case diagnosed as brain tumor, even if the symptoms gave evidence of a more or less exact localization, it would be wiser to do an operation simply for the relief of intracranial pressure, rather than to explore with the idea of removing the tumor. Surgical endeavor in brain cases for the present should aim rather at devising an operation which might give relief to intracranial tension without exposing the important motor area to trauma and strangulation through the opening in the skull. It would be particularly satisfactory, he thinks, if an exploratory operation could be devised which might serve at the same time to expose a large area for the inspection of the surface of the brain and when the flap was resutured could be so arranged as to prevent bulging of the motor area. Possibly this could be done by removing all the bone in a large osteoplastic flap, except the portion covering the motor area, and wiring this portion *in situ*.

29. **Brain and Cord Surgery.**—According to Putnam, the history of his cases, taken in connection with the experience of others, leaves no room for doubt that the cleaning up of the results of old injuries to the cerebral membranes and skull results favorably in a fair number of cases. The favorable outcome seems to be due in part to the removal of reflex irritations and to the securing of better conditions of local nutrition of the cortex. The results, however, are strangely variable, and there is a mystery hanging over the matter which only a far better knowledge than we now possess, of the physiology of the brain and the pathogenesis of epilepsy can dispel. The most important point in regard to the treatment of epilepsy by operation is as to the value of excision of motor-areas of the cortex in patients with localized aura. This is still in doubt. There is much to say of a practical character in its favor, but our knowledge of the physiology of the brain and the genesis and nature of the epileptic seizure is still too immature to be utilized satisfactorily as the basis of so radical a procedure.

30. **Nontraumatic Surgery of Brain.**—Bullard presents the following summary of cases: Trephining for epilepsy, 18 patients; results unknown, 3. Traumatic, 12 patients; not relieved, 3; doubtful, 1; relieved, 8. Non-traumatic: apoplexy, with multiple cysts, 1, relieved; idiopathic, 2, 1 improved; in the other, in spite of possible temporary relief, the disease seems to have progressed. Two patients died, and in both multiple cysts of the brain were found at the autopsy. In two other patients cysts were found on operation. Three of these patients were supposed to be due to trauma, one non-traumatic. It seems probable that when cysts are present, the result of operation is likely to be more favorable than in those cases in which they do not exist.

Lancet Clinic, Cincinnati, Ohio.

July 22.

36 *Nephroptosis—New Operative Treatment. E. Harlan, Cincinnati.
37 Observations on the Treatment of Chronic Diseases. C. Pope, Louisville, Ky.
38 Ethyls in General Anesthesia. S. J. Goodman, Columbus, Ohio.

36. **Nephroptosis.**—In cases of dislocation so slight as to cause little trouble, Harlan prescribes the continuous use of a laxative tonic, containing iron, and an elastic abdominal bandage. He uses an ordinary elastic bandage five inches wide, which, when applied, extends from the pubis to the iliac crests, with a loose kidney pad inserted over the cecum. The reason for limiting the support to the top of the ilia is to have all the upward pressure to come from below, crowding the pelvic viscera higher into the abdominal cavity, thus making the viscera themselves the main support of the kidney. He has found this bandage superior to the full abdominal bandage, first, because it remains in position better, being anchored, as it were, in the hollows below the crests; second, it fulfils better the theory of general abdominal support, knowing as we do of the tendency in these cases to a splanchnoptosis on account of the insufficient support afforded the viscera by a weakened peritoneum. This gives *equal* pressure from below upward, simulating muscular fiber in the elastic support imparted. For the successful treatment of those patients in whom the degree of suffering is greater he has devised the following operative treatment: Cut down on the organ in the line of dislocation from the front; press aside the abdominal viscera over the track of the dislocation and carefully reattach the peritoneum to the back, following up the track until the kidney rests in its original location; imbricate the *peritoneum in front of* and over the lower end of the kidney if there be enough elongation (and there usually is) of the *peritoneum in front* of the kidney to allow of sufficient dislocation forward to give rise to pressure symptoms upon the *descending portion* of the duodenum and the colon. Attach the meson of the ascending and transverse colon (if necessary) to the wall of the back and shorten them, if need be, to *bring* the bowel into position, as also the hepatic flexure of the colon. Care should be exercised

during the operation not to wound the colica sinistra or colica media arteries, as the case may be, and the kidney must not be placed too high. Remove the appendix. A prolapsed duodenum should be normally replaced and its fixation secured if necessary. Use either silk or catgut ligature. If there be much fat about the kidney it is best to incise the peritoneum and to remove it. If the kidney be adherent to the peritoneum enucleate it from its bed of adhesions and then replace and attach it in the manner described. A continuous superficial catgut suture may also be used to secure the anterior surface of the kidney to the peritoneum, thus obliterating the path in which the dislocated kidney wanders, and re-establishing the normal relations and positions of both the kidney and abdominal viscera, and the equilibrium of the sympathetic and general nervous systems. By reason of the congestion of the peritoneum prompt and efficient union of the latter to the back is secured. Rest in bed with proper diet should bring about perfect recovery in two weeks. No danger of pyonephrosis can result from this operation, as there are no deep sutures through the kidney, and the danger of abdominal troubles is practically *nil*, an aseptic operation being done.

St. Louis Medical Review.

July.

39 *The Surgeon and the Pathologist. J. C. Warren, Boston.
40 *The Influence which the Acquisition of Tropical Territory by the United States Has Had, and is Likely to Have, on American Medicine. G. Blumer, San Francisco.

39.—See Journal, July 15, 1905, p. 149.

40.—See Journal, July 15, 1905, p. 169.

Chicago Medical Recorder.

June 15.

41 *Maloplasty. C. Wagner, Chicago.
42 Convergent Strabismus or Squint and the Modern Method of Treating It. T. A. Woodruff, Chicago.
43 *Shall the Physician Dispense? J. A. Clark, Chicago.
44 *Surgical Treatment of Lacerations of the Cervix Uteri. G. C. Waiss, Chicago.
45 *Enemata of Oxygen Gas. H. J. Burwash, Chicago.
46 Theories of Eclampsia. J. B. DeLee, Chicago.
47 Fistula of the Rectum. C. J. Drueck, Chicago.
48 Therapeutic Verities. C. Reiterman, Chicago.
49 Three Obstetrical Cases. E. V. Davis, Chicago.

41. **Maloplasty.**—In the case described by Wagner an operation was performed for a cancer of the mucous membrane of the left cheek. The tumor had invaded the muscular tissue and fascia of the cheek. It was located opposite the molar teeth, of which the decayed root was continually irritating the adjacent mucous membrane. The glands were not involved. The resulting defect from the extirpation of the tumor necessitated a planing for immediate plastic work, in order to avoid an impairment of the function of the lower jaw bone, or total lockjaw. The operation performed was a modification of that advocated by Gersuny. The functional effect is now, after a number of months, a perfect one, the patient being able to open the mouth to the fullest extent. The cosmetic result is good. The operation is described in full.

43. **Shall the Physician Dispense?**—Clark gives some of the reasons why he believes it best for the physician to do his own dispensing. Patients have more confidence in a medicine given by the physician himself than in one furnished by the druggist. There is no fear of substitution; nor is their case open to gossip in the drugstore. By dispensing his own remedies, the physician saves hours of time to his patients and gains the same number of hours in the treatment. This may mean saving a life in acute diseases. The patient saves money. The physician always knows just what his patients are getting and he has a better chance to watch the effect of his remedies. He will become a better therapeutist by doing his own dispensing. Patients can not get their prescriptions refilled whenever they feel like it. A physician is more certain of getting what he is after, because the drugs are not so likely to vary as do the remedies from the different manufacturing and pharmaceutical houses. Many preparations can not be made extemporaneously. Clark gives four reasons, any one of which he thinks should be sufficient to induce every physician to do his own prescribing: (1) Many more lives are saved to the state and nation. (2) Patients recover in much less time, a great economic saving to the family. (3) Families like it better. (4) It pays the physician by increasing his business, his fees and his cash collections.

44. **Treatment of Lacerations of Cervix.**—Waiss practices a modification of Schroeder's operation in the following manner: The cervix is steadied by an assistant and held just within the vaginal outlet; with the straight scissors two flaps are created. By making firm traction with the vulsella forceps, it is a comparatively simple matter to scalp the cervix with the knife, dissecting the vaginal tissue back about one-half inch or more. On the anterior flap of the cervix and at right angles to the direction of the cervical canal, a transverse cut is made across the face of the flap to the depth of about one-quarter inch. Another cut is made obliquely down through the tissue of the cervix to join this, but not including the vaginal strip which has been dissected back, thus removing a wedge-shaped piece. The same procedure is carried out on the posterior lip. A portion of the posterior vaginal flap in the median line is now united to the cervical canal by two interrupted chromicized catgut sutures; the needle entering the center of the vaginal tissue and passing over the intervening part of the cervical stump, enters above and is then brought out of the uterine canal. The anterior portion is treated in the same manner. When these sutures are tied, the free vaginal tissue will be drawn over the cervical stump to the uterine canal, thus forming a new anterior and posterior lip of the external os. One end of each suture will be left long and the other cut short. The resulting raw surface of the cervical stump must now be united with interrupted catgut sutures which approximate the cut surface, but do not include the vaginal tissue. As these cervical sutures become buried, the operation is finished by bringing the vaginal tissue over the cervical stump with a running suture of fine catgut, the end of which is tied to the long end of the suture employed in creating the new canal on the opposite side. The opposite side is treated in the same manner with the exception that the running suture is tied to the long end of the suture on the posterior side. Sutures No. 1 are used to form a new canal. Sutures No. 2 are used to bring the cervical stump together, and to control hemorrhage. Sutures No. 3 unite the vaginal flaps over the cervical stump. When suture No. 1 is tied, it will pull the cervical canal up and down, and when suture No. 3 is tied to suture No. 1, it will pull the cervical canal laterally, consequently creating a patulous canal lined on all sides with squamous instead of columnar epithelium. A loose gauze pack is placed in the vagina to absorb the discharges for the first two or three days, after which it is removed and the outlet simply protected by boric acid powder and a vulvar pad. If there is any discharge after this, the vagina should be douched out daily with a boric acid solution. If no operation has been performed on the vaginal outlet, the patient is allowed to be up in two weeks. Neurasthenic patients should be kept in bed eight weeks or longer, to get the benefit of a rest cure.

45. **Enemata of Oxygen Gas.**—Burwash has made use of enemata of oxygen gas in the treatment of acute respiratory disease, particularly pneumonia. He says that the introduction of a large quantity of oxygen gas into the intestinal canal not only neutralizes and deodorizes the noxious gases that frequently are found there, but also introduces oxygen through the portal system to the liver, and the already overcharged lungs are resisted in their function of aeration of the blood by this reinforcement.

American Journal of Medical Science, Philadelphia.

June.

50 Cerebrospinal Meningitis. N. B. Foster, New York.
51 *Croupous Pneumonia. T. G. Ashton, and H. R. M. Landis, Philadelphia.
52 Peripheral Obliterating Arteritis as a Cause of Triplegia Following Hemiplegia and of Paraplegia. C. W. Burr and C. D. Camp, Philadelphia.
53 Phases of the Neurotic Heart. B. Robinson, New York City.
54 Trauma of the Mesentery. J. F. Erdmann, New York.
55 *Extensive Burn of the Third Degree. A. M. Fauntleroy, Philadelphia.
56 Acute Flexion (Jones' Position), in the Treatment of Supracondylar Fractures of the Humerus. A. P. C. Ashhurst, Philadelphia.
57 *Splenic Anemia with Hemoglominemia and Decreasing Splenomegaly. J. O'Malley and A. O'Malley, Philadelphia.

58 Three Cases of Hypernephroma. I. C. Herb, Rochester, Minn.
59 Problem of the Treatment of Laryngeal Tuberculosis. W. G. B. Harland, Philadelphia.
60 Tuberculosis of the Prostate. T. R. Crowder, Chicago.
61 Résumé on the Issues Concerned in the Diagnosis and Treatment of Renal Tuberculosis. M. W. Ware, New York City.
62 Effects of Transportation of the Daily Routine on the Rhythm of Temperature Variation. R. B. Gibson, New York.
63 Study of the Metabolism of a Vegetarian. J. M. Swan, Philadelphia.
64 Detection of Minute Traces of Sugar in Urine. E. L. McEwen, Philadelphia.

51. **Croupous Pneumonia.**—Ashton and Landis present analyses made from clinical observations of 991 cases of croupous pneumonia observed in the Philadelphia General Hospital. Of these, 757 were males and 234 were females. The ages of the patients ranged from 1 to 90 years; the majority of cases occurring between the ages of 20 and 70; the second, third and fourth decades showing the greatest number. The general mortality of these cases extending over a period of five years and nine months, was 54.3 per cent., a death rate only to be accounted for by the class of patients from which these statistics are derived. The seasonal occurrence in 706 of the cases was found to be as follows: January, 111; February, 119; March, 125; April, 74; May, 60; June, 27; July, 18; August, 19; September, 10; October, 30; November, 57; December, 76. In 900 cases the right lung was alone involved in 487; the left in 293; both lungs, in varying positions, 120; lesions of the apex alone in one or both lungs, 128 cases. Of the 991 patients, 104 were alcoholic, many of whom developed delirium tremens and still more presented the disease in its various atypical and grave forms. Traumatism appeared to have some causative influence in seven cases. Pain of the peculiar stabbing character common in pneumonia was present in 679 cases; chill was noted in 492 cases; cough in 737 cases; abundance of sputum in 53; blood-tinged and rusty sputum in 537; prune-juice sputum in 14; and absence of sputum in 123; herpes was noted in 47 cases. Vomiting was present in 95; nausea without vomiting in 134; jaundice in 9; nephritis in 207; albuminuria in 232; delirium in 213. The highest temperature range recorded in 991 cases was 108, the issue being a fatal one. In 9 cases, the temperature was subnormal; these patients all developed uremia and all died. Respirations were above 40 in 107 cases; the maximum being 82 in a case shortly before death. The pulse ranged from being uncountable to 26 per minute. The leucocytosis ranged from 10,000 to 75,000. No definite relation between the degree of leucocytosis and the tendency to recover could be elicited. Among the complications noted were the following: Abortion, rheumatism, empyema, erysipelas, influenza, malaria, myocarditis, pleural effusion, typhoid, uremia, hemiplegia, and cardiac dilatation. The course of these cases seems to have been practically uninfluenced by any particular plan of treatment.

55. **Extensive Burns of the Third Degree.**—Fauntleroy reports a case of extensive burn involving nearly all the skin over the abdominal area from the seventh rib downward, the outer surface of the right thigh and buttock and portions of the right leg. The patient was placed in a 3 per cent. boric acid bath, which was maintained continuously, at about 38 C., for ten days, being only removed now and then to allow the tub to be cleaned. Each day the wound was examined and portions of the sloughing tissue removed. The patient expired suddenly on the sixteenth day. Fauntleroy believes that all extensive burns should be treated, if possible, by the continuous warm bath. The method is very restful to the patient, relieves shock, and attention can be given to the burned area without handling the patient or the dressings. When the sloughs have begun to separate, some form of more active continuous antiseptic irrigation, preferably aluminum acetate, is indicated. Food should be strictly liquid and given in small, but repeated, doses. For the shock, the intravenous infusion of normal salt solution often times will give miraculous results.

57. **Splenic Anemia.**—The striking characteristics of the case reported by the O'Malleys are: (1) The fact that the spleen shrank 10 cm. while the case was under observation; (2) there was a marked true hemoglobinemia throughout the last six or seven months of the patient's life.

Kentucky Medical Journal, Louisville.

June.

65 Uses of Chloroform. D. G. Simmons, Adairville, Ky.
66 Syphilis. J. W. Parker, Grays, Ky.
67 Abortion. B. F. F [illegible]
68 Malformations of th [illegible] ice of Anus: Exhibition of Patient [illegible] on. P. C. Layne, Ashland, Ky.
69 Croupous Pneumonia—Pathology, Etiology, Symptoms. J. L. Miller, Ashland, Ky.
70 Fracture of Inferior Maxillary: Report of Three Interesting Cases. D. C. Bowen, Nolin, Ky.
71 *Case of Typhoid Fever. T. H. Garvin.
72 Seven Cases of Intestinal Obstruction. E. W. Owen, Irvine.
73 Murdered for Ten Dollars. J. T. Reddick, Paducah, Ky.
74 Progress in General Surgery. I. Abell, Louisville.

71. **Adrenalin in Typhoid.**—Garvin reports a case of typhoid in which a very severe hemorrhage occurred on the twenty-first day. The usual agents employed for the control of hemorrhage proving futile, he resorted to the use of five drops of adrenalin chlorid solution, .001, every two hours for 60 hours. The patient recovered and Garvin is of the opinion that the case terminated favorably because of the use of adrenalin.

Annals of Surgery.

June.

75 *Experimental and Histologic Study of Cargile Membrane. A. B. Craig and A. G. Ellis, Philadelphia.
76 Subperitoneal Pelvic Fibromata. W. F. Whitney and F. B. Harrington, Boston.
76½ Gangrene of the Scrotum. A. D. Whiting, Philadelphia.
77 *Diagnosis and Treatment of Fracture of the Carpal Scaphoid and Dislocation of the Semilunar Bone. E. A. Codman and H. M. Chase, Boston.
78 Relation of Gonorrheal Rheumatism to Seminal Vesiculitis and Its Cure by Seminal Vesiculotomy. E. Fuller, New York City.
79 *Twine Triangular Stitch for Gastro- and Entero-enterostomy. J. W. Maury, New York.
80 Suture of the Spleen for Traumatic Hemorrhage. A. I. Ludlow, Cleveland. Ohio.

75. **Study of Cargile Membrane.**—An experimental and histologic study of Cargile membrane was made by Craig and Ellis with reference to its efficacy in preventing adhesions in the abdominal and cranial cavities and around nerves and tendons, and its ultimate fate in the tissues. The most distant time at which they found unchromicized Cargile membrane existing intact, microscopically, within the peritoneal cavity, was the fourteenth day; in most instances it had disappeared to macroscopic view much sooner. The earliest time at which they found the membrane had disappeared over the area of actual denudation was on the third day. Unchromicized Cargile membrane was buried in living animal tissue, as when placed around tendons and nerves, or in muscle, apparently is absorbed sooner than when placed within the peritoneal cavity. In no instance was so much as a fragment of the membrane observed macroscopically as late as the fifth day, though in the fragmental state membrane was noted microscopically as late as the fourteenth day. Chromicized Cargile membrane when placed within the peritoneal cavity or when buried in living animal tissue, remains unabsorbed much longer than does the unchromicized variety. The two varieties doubtless bear relatively the same relation to each other, so far as absorbability is concerned, as do chromicized and unchromicized catgut. While the unchromicized, and to a less extent the chromicized, variety will adhere firmly to a surface denuded of peritoneum, when such surface is relatively dry, yet neither can be depended on to remain where placed, unless anchored by some method, in a situation which is subject to peristaltic activity. A logical deduction from the results of the experiments seems to warrant the belief that neither variety of the membrane is of value in preventing adhesions within the peritoneal cavity. In every instance, the membrane, until absorbed, appeared to act as a foreign body, and therefore as an irritant. Craig and Ellis believe, from results of their observations, that both varieties of the membrane are of value in preventing adhesions to wounded nerves and tendons when such structures lie in tissues which have been subjected to trauma, operative or otherwise. Their conviction is that for this purpose the chromicized variety is the more valuable, and that several layers of either variety of the membrane, when placed around tendons or nerves, afford a safer and better protection than one layer. When used in the cranial cavity to replace destroyed or removed dura, the

unchromicized variety would be exceedingly difficult to handle on account of its being unmanageable when moist; and on account of the rapidity with which it dissolves, it would be of no special value in this situation even though it could be used with ease. Owing to the facility with which the chromicized variety can be handled, its greater toughness and increased power to resist absorption, it would prove of greater value in replacing the dura. These studies indicate that the membrane is destroyed by a lytic substance, or substances contained in the body fluid. The celloidin capsule experiments, even though bacteria were present in one, show that the membrane is softened, and at least partially absorbed by body fluids without the presence of cells. In the tissues it is split into fibrils, this change being accompanied or followed by the penetration of formative cells of the new tissue enclosing it. Fragmentation, disintegration and absorption finally ensue. Phagocytosis may be safely excluded as a chief important contributing cause.

77. **Fracture of Carpal Scaphoid and Dislocation of Semilunar Bone.**—Codman and Chase urge a more systematic observation and more exact methods of diagnosis and treatment of carpal injuries than exist at present. They believe that the profession at large does not realize that many obstinate sprained wrists are instances of fracture or dislocation of the carpal bones, and that the treatment should be known as definitely as is the treatment of a similar injury of any other joint. The results obtained in six patients operated on lead the authors to recommend a somewhat radical treatment, because the patients who were treated conservatively neither recovered so quickly nor so completely as those who were operated on. The large majority of carpal injuries are either simple fractures of the scaphoid or anterior dislocations of the semilunar bone. These two injuries are frequently combined, and in such cases the proximal fragment of the scaphoid is usually dislocated forward with the semilunar. Simple fracture of the scaphoid gives a definite clinical picture, and may be recognized even without the *x*-ray by the association of the following symptoms, viz, (a) the history of a fall on the extended hand; (b) localized swelling in the radial half of the wrist joint; (c) acute tenderness in the anatomic snuffbox when the hand is adducted; (d) limitation of extension by muscular spasm, the overcoming of which by force causes unbearable pain. A broken scaphoid has little power of repair and appears capable of but slight callous formation. Fractures of the scaphoid which remain untreated or are treated by massage and active and passive motion, generally, if not always, remain united, and the original symptoms often persist for years with only slightly abated tensity. Fracture of the scaphoid may unite if motion of the wrist be prevented during the first four weeks after the injury, but if by this time no union has occurred, future union is unlikely. Excision of the proximal half of a fractured scaphoid gives a somewhat better result than conservative treatment. A posterior incision to the outer side of the tendons of the extensor communis digitorum gives an easy and safe access to the proximal half of the scaphoid. Passive motion of the wrist joint and active motion of the fingers should be begun after this operation. The possibility of the existence of a bipartite scaphoid should be considered in interpreting *x*-rays of simple fracture of the scaphoid, but its occurrence must be very rare in comparison with fracture. Anterior dislocation of the semilunar bone should be recognized clinically, even without the *x*-ray, by the association of the following symptoms: (a) The history of an injury of considerable violence to the extended or twisted wrist; (b) a silver-fork deformity, the posterior prominence of which corresponds with the head of the os magnum, and between which and the lower end of the radius is found a groove representing the position formerly occupied by the now anteriorly dislocated semilunar; (c) a tumor under the flexor tendons of the wrist anterior to the lower end of the radius; (d) a shortened appearance of the palm as compared to the other hand; (e) stiffness of the partially flexed fingers, motion of which, either active or passive, is painful; (f) the persistence of the normal relation of the styloid processes of the ulna and radius and the existence of shortening of the distance from the radial styloid to the base of the first metacarpal. Recent dislocations of the semilunar may be reduced with good result even after the fifth week by hyperextension followed by hyperflexion over the thumbs of an assistant held firmly in the flexure of the wrist on the semilunar. Irreducible dislocations demand excision of the semilunar and the whole or a portion of the scaphoid if there is a coincident fracture of the latter.

79. **Twine Triangular Stitch.**—Maury reports the experimental and clinical status of the method of application of the twine triangular ligature. He employed the strong white twisted twine used in the dissecting room for suspending the extremities of subjects. If the braided line is used, 22 thread, Cuttyhunk, is recommended. An advantage of using a twisted rather than a braided twine lies in the fact that tighter pressure can be made on the tissues to be constricted with the twisted material. It offers less resistance to the tissues and causes less friction on itself when the first knot is made taut. A possible objection to it lies in the fact that during its insertion the twine may uncoil slightly and the operator may inadvertently pass the needle through one of the coils without encountering sufficient resistance to realize it. To prevent this, Maury seizes the stitch at about its center with a thumb forcep and makes sure that it is entirely free before the twine is tied. Twenty-nine dogs and one hog were operated on. On seventeen dogs, the twine triangular gastroenterostomy was done, and in thirteen of these the pylorus or some region of the upper gut was tied off, either at the time of operation or at a subsequent period. The Y gastroenterostomy has been done on five dogs. Seven dogs were experimented on in connection with other work. In one hog, two gastroenterostomies were done February 2. The animal is still in excellent condition. Of all these dogs, four died as the result of evagination of the cut ends of the gut. Three died with tetanoid symptoms. Three died owing to faulty technic, gut punctures, etc. Fifty per cent. of the dogs who underwent the modified technic of cutting out the center of the triangle died of peritonitis. No dogs have died of peritonitis directly the result of the twine triangular stitch. There has been one failure of the stitch to cut out, owing to its not being tied tight enough. The technic of making the stitch is described in full and is illustrated by numerous cuts.

Journal Missouri State Medical Association, St. Louis.

June.

81 President's Address, Missouri State Medical Association. J. N. Jackson, Kansas City.
82 Symposium on the St. Louis Water Supply. E. E. Wall, St. Louis.
83 Tubo-Abdominal Pregnancy, Associated with Parovarian Cyst and Myomatous Uterus. F. J. Taussig, St. Louis.
84 Mixed-Cell Hypernephromatous Tumor of the Kidney, Associated with Calculous Pyelonephritis. F. J. Taussig, St. Louis.
85 Constipation and Its Relation to Diseases of the Rectum. W. H. Stauffer, St. Louis.

New Orleans Medical and Surgical Journal.

June.

86 Annual Report of 1905, to E. B. Craighead, President of the Tulane University of Louisiana, at the Annual Commencement of the Medical Department, May 3, 1905. S. E. Chaillé, New Orleans, La.
87 Ptosis and the Operation of Motais. H. D. Bruns, New Orleans.
88 Genu-Varum and Valgum, Corrected by Osteotomy. E. D. Martin, New Orleans.

Northwestern Lancet, Minneapolis, Minn.

June 1.

89 Appendicitis in Relation to Pelvic Disease. J. C. Webster, Chicago.
90 Diagnosis of Latent Pulmonary Tuberculosis. L. A. Nippert, Minneapolis.
91 Tonsillectomy for the General Practitioner. J. A. Watson, Minneapolis.

Medical Herald, St. Joseph, Mo.

June.

92 Clinical and Operative Phases of Appendicitis. A. H. Cordier, Kansas City, Mo.
93 Critique of the Medical Profession of St. Joseph. O. B. Campbell, St. Joseph.
94 Synoque. W. T. Waugh, Chicago.
95 Consideration of Recent Methods of Correcting Retrodisplacements of the Uterus. C. H. Wallace, St. Joseph, Mo.

Archives of Otology, New York.

June.

96 Mastoiditis in an Infant with a Sequestrum Consisting of a Large Segment of the Petrous Portion of the Right Temporal Bone. W. C. Braislin, Brooklyn.

97 Two Anatomic Anomalies Encountered During the Performance of Mastoid Operations. W. C. Braislin, Brooklyn.
98 Mooted Points in the Treatment of Protracted Cases of Acute Middle-Ear Diseases and their Complications. A. Wiener, New York.
99 Two Cases of Acute Otitis Media Suppurativa, Followed by Mastoiditis and Meningitis, and Caused by the Diplococcus Intracellularis of Weichselbaum. G. Bacon, New York.
100 Infective Sigmoid Sinus and Jugular Thrombosis Complicated by Lepto-meningitis; Lumbar Puncture; Subdural Irrigation; Death. J. D. Richards, New York.

Medical Sentinel, Portland, Ore.

June.

101 Progress in Nervous and Mental Diseases. Wm. House, Portland.
102 Extirpation of External Carotid Arteries with Branches, for Cure of Certain Malignant Growths. E. P. Geary, Portland.
103 Prolapse of the Uterus and Its Treatment. A. J. Giesy, Portland.

Annals of Gynecology and Pediatry, Boston.

June.

104 Diphtheria, Its History and Control by Antitoxin. M. Long, Hingham, Mass.
105 Investigations of the Energy of the Life Functions in Women, After Extirpation of the Uterus, with and without the Adnexa. Drs. Mandl and Burger, Boston.
106 Consideration of Recent Perineal Lacerations. G. Clarke, Cambridge.

Canadian Practitioner and Review, Toronto, Canada.

June.

107 Cystic Degeneration of the Villi of the Chorion and Its Relation to Chorion Epithelioma. C. J. C. O. Hastings, Toronto.
108 Symptomatology and Diagnosis of Smallpox from a Study of Thirty-three Cases. G. E. Greenway, Toronto.

Pacific Medical Journal, San Francisco.

June.

109 Address. College of Physicians and Surgeons. D. M. Delmas, San Francisco.
110 Relation of the Public to the Medical Profession. H. D. Power, San Francisco.
111 Is the Mosquito a Disseminator of Malaria? J. M. Hurley, San Bernardino, Cal.
112 Use of Copper Sulphate and Calcium Oxid as a Deodorant, Disinfectant and Possible Purifier of Water Supplies. C. E. Jones, San Francisco.
113 Urethral Chancre with Misleading Complications. L. Gross, San Francisco, Cal.

Denver Medical Times.

June.

114 Psammoma of the Maxillary Sinus. J. C. Munro, Boston. Mass.
115 Rheumatoid Pains Following Injuries in High Altitudes. C. F. Kiefter, Fort D. A. Russell, Wyo.
116 Congenital Ulcer of Stomach. J. N. Hall and T. H. Hawkins, Denver.
117 Infection with Fly Larvæ. W. C. Mitchell, Denver.
118 Medical Ethics. B. B. Frankle, Pueblo.
119 Normal Obstetrics. T. M. Burns, Denver, Colo.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 8.

1 The Nature of Tabes. W. R. Gowers.
2 Indirect Injuries of the Optic Nerve. J. J. Evans.
3 *Substitute Feeding in Infants. T. H. Sanderson-Wells.
4 Increase in the Consumption of Animal Food; a Survey of the Past Fifty Years. C. Watson.
5 *Clinical Method for the Quantitative Estimation of Uric Acid in Urine. N. F. Surveyor.

3. **Substitute Feeding in Infants.**—Sanderson-Wells concludes that all proprietary foods are bad because, (1) they are all deficient in fat, one of the most essential elements of an infant's food; (2) they are not antiscorbutic; (3) they contain as a class too much sugar; (4) they mostly contain foreign elements: starch, maltose, cane sugar, etc. Wet nursing, he declares, is seldom or never justifiable on the following grounds: (1) It is inaccurate. The milk of one mother does not necessarily suit the child of another, and although analysis is possible it is practicable, and we have little chance of modifying the supply to suit our requirements. (2) It is inconvenient, upsets the house. Domestic difficulties are great and misconduct frequent. (3) No examination, however careful and thorough, will exclude the presence of syphilis in a woman. In preparing cow's milk for the use of the infant, careful attention must be given to having the various constituents in as nearly the same proportion as they are found in mother's milk. Lactose is the proper sugar to use. The milk must be absolutely sterile, and this is best attained by pasteurization at 70 C., for thirty minutes.

5. **Method for Quantitative Estimation of Uric Acid in Urine.**—Surveyor describes his method as follows: For this method, from 5 to 10 c.cm. of urine is quite sufficient, and the only reagent required is a couple of tiny drops of pure hydrochloric acid; the drops must be so small that 50 such equal 1 c.cm. of the acid. This can be easily managed by using a capillary tube, drawn out in a blowpipe like the ordinary glass bristle used for bacteriologic purposes. Have the urine as free as possible from extraneous dirt. Remove albumin and pus, if present, by adding acetic acid and heating the urine. Render the urine slightly alkaline by adding tiny drops of strong NaHO—boil it, and take 5 c.cm. of this boiled urine for examination. Add two tiny drops of HCl from a capillary pipette (each drop equals 0.02 c.cm.), stir it well; see that it is quite clear again. Freeze it and centrifugalize till the whole has remelted, and read off the percentage of deposit as soon as the temperature is about 25° C. In case there is much pus or albumin or any other deposit is present, it must be removed by boiling 10 c.cm. of the urine acidulated with a tiny drop of glacial acetic acid, and 5 c.cm. of the filtered urine is to be treated as above. The temperature of the freezing mixture is about 12° C. in a room at 25° C.

The Lancet, London.

July 8.

6 Clinical Lecture on Automatic Flushing of the Stomach in Certain Cases of Vomiting. W. H. Bennett.
7 *Analysis of 300 Consecutive Gynecologic Laparotomies. A. H. N. Lewers.
8 *Hypertrophy of the Mammary Glands. J. Darquier.
9 Sporadic Case of [illegible] is. J. R. Collins.
10 Perforated Gast [illegible] emorrhage from the Bowel in an I [illegible] Old. A. G. Bisset.
11 Rates of Attack [illegible] iety Large Towns of England and [illegible]
12 Examination of [illegible] om the Throat and Nose. W. T. G. Pugh.

7. **Analysis of 300 Laparotomies.**—The cases tabulated by Lewers include the following: ovariotomy, 100; abdominal hysterectomy for fibroids, including panhysterectomy for fibroids, 73 cases, 4 deaths; removal of uterine appendages for chronic inflammation, 47 cases, 4 deaths; laparotomy for ectopic pregnancy, 33 cases, 1 death; abdominal hysterectomy, for conditions other than fibroids, 17 cases, 6 deaths; exploratory laparotomy, 14 cases, 5 deaths; Cesarean section, 8 cases, 1 death; myomectomy, 3 cases; hysteropexy, 5 cases. The mortality for the whole series was 7 per cent. The article is to be concluded in a subsequent issue.

8. **Hypertrophy of Mammary Glands.**—In the case reported by Darquier the mammæ were enormously increased in size, reaching the umbilical line. When submerged in water, the right breast displaced 15 liters and the left 11 liters. The right breast weighed 13 kilograms, the left, 10 kilograms. Microscopic examination showed that the enlargement was due to the formation of fibrous meshes with few cells and many vessels with thick fibrous walls. The glandular *acini* were atrophied by compression. The pathologic diagnosis was chronic fibrous mammitis and diffuse fibroma of the mammæ.

Journal of Tropical Medicine, London.

July 1.

13 Reports of Commission on Investigation of Mediterranean Fever. Part II.
14 Cataracts and Secondary Cataracts and Membranous Opacities of the Vitreous. G. H. Fink.
15 *Classification and Pathology of Beriberi. H. Wright.
16 Experiments Relative to the Toxicity of the Disinfectant Cyllin. D. Sommerville.

15. **Classification and Pathology of Beriberi.**—Wright makes the following classification: 1. Acute pernicious beriberi, in which the onset is sudden, with more or less severe symptoms of gastroduodenal irritation and cardiac paralysis. There may be varying degrees of pulmonary, vaso-motor and sensorimotor paresis. On first examining a case in this class it may generally be predicted that death will shortly occur. 2. Acute beriberi, in which the onset is sudden, though never so sudden as in acute pernicious beriberi, with more or less noticeable symptoms of gastroduodenal irritation and concomitant vasomotor and sensorimotor paresis. 3. Subacute beriberi, in which the onset of the disease is more insidious than in either of the above classes of cases; in which the symptoms of gastroduodenal irritation may escape notice, and in which the

concomitant sensorimotor and vasomotor paresis may be so slight as to involve only one or two movements, a few areas of sensation and the vascular supply to the front of the legs. 4. Beriberic residual paralysis or neuritis, or the disease as it appears after the symptoms of gastroduodenal irritation have disappeared, and after the causal organism and its toxin have accomplished their work and been eliminated.

Bulletin de l'Académie de Médecine, Paris.

Last indexed page 76.

17 (Year LXIX No. 23.) Case d' achondroplasie. Sevestre.
18 (No. 24.) Prolapsus de la muqueuse de la vessie à travers l'urèthre chez la femme (*of female bladder through urethra*). F. Villar.
19 *Influence nocive de la vélocipédie et de l'automobilisme sur la vision et les moyens d'y remédier. Mirovitch.
20 *Alimentation dans la tuberculose expérimentale. Influence nocive de la viande cuite (injurious influence of cooked meat). C. Richet.
21 (No. 25.) *Utilisation des matières grasses chez les tuberculeux (of fats). Laufer and Pouchet.
22 *Action thérapeutique des formiates. H. Huchard.
23 Mort rapide de 2 juments ayant présenté à l' autopsie une plénitude extrême de l'estomac (*death of mares solely from overeating*). H. Benjamin.
24 (No. 26.) *Heredo-syphilis de seconde génération. E. Fournier.

19. **Protection of Eyes in Automobiling.**—Mirovitsch expatiates on the injury to the eyes from the high speed in bicycle or automobile riding. He suggests as a remedy some protecting goggles he has devised which shut out the wind entirely, while allowing a gentle circulation of air.

20. **Zomotherapy in Tuberculosis.**—Richet's experiments on tuberculized dogs have attracted considerable attention. He fed a certain number on raw meat exclusively, the same number on cooked meat exclusively, and others on starchy foods, etc. At the end of the year, the group fed on raw meat was in far the best condition, while all the dogs fed on cooked meat had died. Animals kept fasting thrived better than those fed on cooked meat. He ascribes this to the fact that they lived on their reserves, which are essentially raw meat. He does not venture to apply these results to man, although he remarks that it is certainly suggestive that in experimental tuberculosis cooked meat kills, while raw meat sustains life in better condition than any others of the foods.

21. **Utilization of Fats in Tuberculosis.**—Laufer has become convinced in the course of much clinical and experimental experience that the albuminoids, carbohydrates and fats must be ingested in a certain definite proportion to derive benefit from them. When one of these groups is given predominance, especially the fats, the weight increases rapidly at first, but it soon becomes stationary and then rapidly declines, while there is more or less anorexia. In presenting his memoir Pouchet confirmed these statements and emphasized the importance of the diet for preparing a favorable soil for the action of drugs or therapeutic measures in general. The resisting powers of the patient depend on the diet. His food determines his general condition and his receptivity for drugs.

22. **Formates in Therapeutics.**—Huchard protests against the sensational statements that have been credited to him in regard to the tonic action of the formates on the muscular system. He also warns against the danger of immoderate dosage, disclaiming all responsibility when more than from 1 to 2 gm. is taken during the twenty-four hours. A Lyons physician has already called attention to what he calls "formic fever," due to improper use of the drug.

24. **Syphilis Inherited to the Third Generation.**—Fournier has collected 116 cases of the lesions or stigmata of the second generation of hereditary syphilis. His analysis of the data compels him to accept the possibility of this transmission of inherited syphilis from the grandparent to the grandchild. It generally manifests itself by dystrophic stigmata, similar in every respect to those of inherited syphilis in the first generation, but occasionally the lesions may be those of true, virulent syphilis. The latter form was observed in about 14 per cent. of the cases. Only three-fifths of the descendants in this second generation lived to grow up.

Presse Médicale, Paris.

Last indexed page 76.

25 (No. 44.) *Miners' Anemia in the Army.—L'anémie du mineur en milieu régimentaire. Thooris.
26 Technique de l' appendicectomie. Chaput.
27 (No. 45.) *La *tuberculose en Chine* (China). A. F. Legendre.
28 *L'obstruction brusque dans le tubage sans surveillance. E. Escat.
29 (No. 46.) Diagnostique des tumeurs de l'*hypochondre droit* (in right hypochondrium). T. Tuffier.
30 (No. 47.) *Des embolies hydatiques de l'artère pulmonaire.* M. Garnier and J. Jomier.
31 *L'hydro-hémolyse. Recherche des microbes dans le sang. L. Nattan-Larrier and *A. Bergeron.*
32 (No. 48.) L'atonie dans les dyspepsies. A. Mazeran.
33 *Comment il faut* administrer les formiates (mode of administration of formates). A. Martinet.
34 (No. 49.) Le congrès colonial, Paris, June 5-9, 1905.
35 *Des fractures supra-condyliennes* de l'humérus chez l'enfant (in children). Deniker and P. Dezarnaulds.
36 **Traitement* des dartres du visage (patches on face). L. M. Pautrier.
37 (No. 50.) **La cystoscopie* à vision directe. G. Luys.
38 **Nouvelle pathogénie des varices. R. de Gaulejac.*
39 *L'alimentation par les oeufs (eggs). A. Martinet.
40 (No. 51.) *Des kystes hydatiques* des os du crane (of skull). Antoniu.
41 *De la médication oxytocique (sugar and quinin). G. Keim.
42 (No. 52.) **Pylorospasme* avec hypersecretion et tétanie. T. Jonnesco and J. Grossman.
43 The Formates in Therapeutics. C. Vermeulen.
44 Traitement de l'ozène par les injections de paraffine solide. G. Mahu.
45 *Report of* German Congress of Surgery. (Commenced in No. 40.)

25. **Miners' Anemia in the Army.**—Thooris found a number of cases of severe miners' anemia among the new recruits who previously had been miners. The ankylostoma was found in the majority, but in others the anemia seemed to be due to the *Trichocephalus bothriocephalus* or ascaris. The helminthiasis had an evident debilitating effect, as a rule.

27. **Tuberculosis in China.**—Legendre describes the condition observed in the remote province of Se Tchouen, where he has established a medical mission. Tuberculosis and opium smoking are very common, and his impression is that the Chinese race is thoroughly decadent both physically and morally.

28. **Fenestrated Tube for Intubation.**—Escat gives illustrations of the tube he has devised to prevent the possibility of sudden obstruction. There are three or four openings in the lumen, on each side, arranged in a spiral. Even if the main lumen becomes obstructed at any point, there is still room sufficient for ingress and egress of air at some part of the tube. He suggests that the membrane obstructing the tube might be forced out of it by using a Politzer bag or similar devise to blow it through.

31.—**New Technic for Detecting Microbes in Blood.**—The technic described is based on the hemolytic properties of distilled water. The clot derived by centrifugalizing a little blood diluted with distilled water is used to inoculate animals on culture media. The positive results parallel those of other more complicated technics. The proportions must be exactly 200 gm. of water for 10 c.c. of human blood or pleural effusion. The mixture is shaken in the vial for three or four minutes and then distributed in from two to four centrifugalizing vials and centrifugalized for fifteen minutes. There is very little sediment, and it is free from fibrin. The fluid is decanted, and the sediment can be aspirated with a pipette and spread on from 6 to 8 cover glasses, fixed with heat, and stained by Ziehl's or other technic as usual.

36. **Treatment of Rebellious Patches on the Face.**—Pautrier refers to what he calls *dartres*, a vague French term meaning a rebellious skin affection, which may be dry impetigo, eczema or pityriasis. It may be cured in children sometimes by merely substituting salted water for the ordinary faucet water, with or without sodium borate or bicarbonate. In women, all irritation from veils, sun, wind, extreme cold, etc., should be avoided and the face should be bathed in water that has boiled long, thus getting rid of some of its lime. The affection is probably due to the streptococcus, and suitable local treatment should be used. He commences with Brocq's salve:

℞.	Sodium borate	gr. viii	|50
	Zinc oxid	ʒss	2|
	Cerate or vaselin	ʒivss	18|
	Tincture of benzoin	m. xv	|9

A glycerolate with tannin and calomel may be useful or a salicylic-acid combination. The salve should be wiped off in the morning, and during the day a mixture of sodium borate, glycerin and rose water should be applied. The nasal mucosa should be disinfected at the same time with tepid salt solution or otherwise once or twice a day.

37. **Cystoscope for Direct Vision.**—Luys has perfected his cystoscope which does away with the prism and the necessity for distension of the bladder with air or water. He applies it in the Trendelenburg position and gives illustrations of the instrument and its mode of application, enumerating six special advantages of this technic.

38. **Pathogenesis of Varices.**—Gaulejac suggests that varices may be due to an extra strain on certain parts of the veins. These overstrained valves yield, and varicose enlargement is the result. Compression of the walls of the vein, always at a certain place, impairs the nutrition at this point. This explains why the bicycler, the coachman, women working the sewing machine or in the habit of sitting long, have varices. It also demonstrates how they can be avoided by changing the position frequently, thus changing the point of compression and strain. This conception of varices entails the specificity of varicose enlargements according to trades and manners of life. It also demonstrates that gentle, varied exercise is the best means of prophylaxis and treatment. If this fact were borne in mind in the care of the puerperium, phlebitis might become less common. It is much less frequent among the women of the working classes than among the well-to-do, probably because they are obliged to resume early their household duties instead of staying so long in bed after delivery.

39. **Eggs in Diet of the Sick.**—Martinet declares that the cook is as important an auxiliary as the pharmacist for the physician, and that an annotated cookbook should be found in every physician's library. He gives a number of recipes for various egg dishes, with their calories, mentioning a number of points that should be observed, but of which the average cook is ignorant. For instance, if omelets, custards and such dishes are cooked until the albumin is entirely coagulated, their digestibility is not that of a soft-boiled but of a hard-boiled egg. The addition of butter, etc., also reduces their digestibility. He says that the Italian *zabaglione*, well made, represents about 800 calories and can be taken by the most delicate stomachs. He gives the directions for it and also for "egg beer," which represents 240 calories. The yolk of egg in bouillon he regards as the best dish for the convalescent. The yolk of egg in 200 gm. of milk represents 185 calories, with about 11 gm. of albumin, 12.5 gm. fat, and 9 gm. of carbohydrates. The proportion of fat is too high in comparison with the carbohydrates. This can be partially corrected by adding 15 gm. of sugar and a pinch of salt.

41. **Oxytocic Medication.**—Keim discusses the action of sugar and of quinin on the contractility of the uterus. Both have a marked and rapid action in promoting the contractions, but only when labor is already established, when the uterine muscles are already in play. He gives the sugar or lactose diluted and between meals. When labor commences, if it is normal and rapid, the reserves of sugar in the organism suffice for delivery, but, if these reserves are not quite enough, sugar given when the dilatation of the cervix has reached a certain point will aid materially in successful delivery. It increases the muscular energy and aids in the expulsion of the child. He gives the sugar or lactose in three doses of 25 gm. each at half-hour intervals. Quinin has a similar action, but it has several disadvantages, while sugar has none.

42. **Pyloric Spasm and Tetany.**—Jonnesco describes a case of gastric hypersecretion, dilatation and tetany successfully treated by surgical interference. Operations have been performed in 11 such cases to date, with 8 recoveries and 3 deaths from postoperative complications (Fleiner and Gumprecht). In Jonnesco's case there was permanent hyperchlorhydria with insufficiency of the second degree. The various symptoms were noticed for about ten years. They grew worse during the last two, the attacks of pain became more frequent and were relieved only by copious vomiting. The extreme hyperacidity after an error in diet induced pyloric spasm, probably to prevent the invasion of the intestine by the too irritating stomach contents. The painful spasm was followed by vomiting, and the patient was then relieved until the next attack, the stomach motility in the interval being apparently normal. After years of these troubles the emaciated patient restricted himself for a week to exclusively starch diet, which materially aggravated the condition, which was not improved by tentative mercurial treatment nor by a course of olive oil. Hypersecretion became superposed on the hyperchlorhydria; the secretion amounted to several quarts a day, while scarcely any was evacuated into the intestine. The consequent congestion in the walls of the stomach induced hematemesis, and the great loss of fluids by the hypersecretion in the stomach was the cause of the tetany. This was relieved by saline infusion, and the hard and thickened pylorus was excluded from the alimentary canal by a side-to-side transmesocolic gastroenterostomy, which cured all the symptoms as if by magic. Two months later the stomach content was approximately normal. This case confirms Fleiner's assumption that the loss of fluids reduced the dilution of the tetanizing toxin normally present in the blood. When not diluted enough to pass through the renal filter it accumulates in the stomach—although not produced there originally—and induces actual tetany.

Centralblatt f. Chirurgie, Leipsic.

Last indexed page 224.

46 (XXXII, Nos. 25-26.) *Aid to Rapid Suturing.—Ein Hilfsmittel zu raschem und exaktem Nähen. O. Bernhard (Samaden).

47 (No. 27.) Zur operation der komplizierten Hasenscharte (complicated hare-lip). Küster (Marburg).

46. **Aid to Rapid and Exact Suturing.**—Bernard's observation, the surgeon, after a long and tedious operation, is too apt to slight the suturing of the skin or to leave it to some assistant, and to remedy this he uses a set of clamps similar to Tiemann's bullet forceps. The extreme tips curve abruptly inward, the tips crossing and very sharp, the handles locking. These "wound clamps," as he calls them, answer the same purpose as Michel's clamps or agrafes, but, unlike them, can be used for each tier of the suture in turn.

Centralblatt f. d. Grenzgebiete, Jena.

Last indexed XLIV, page 757.

48 (VIII, Nos. 1-4.) *Die operative Therapie der Gehirn-Syphilis (of brain). E. Stransky. Collective review of recent literature.

49 *Erfolge der chirurgischen Behandlung bei Peritonitis. W. Klink. Collective review.

50 *[illegible] Leukämie und Pseudo-Leukämie. [illegible] review.

51 [illegible] f Spinal Cord.—Stichverletzungen des Ruckenmarkes. G. Flatau. Collective Review.

48. **Operative Treatment of Syphilitic Brain Lesions.**—Stransky reviews forty-eight articles bearing on this subject, which, he remarks, has been better studied in America and England than elsewhere. He cites the details of the various cases in which an operation was done, his general impression being that the unfavorable termination in some cases was due to the incorrect localization or age of the process before intervention. The syphilitic nature of the lesion is no indication against operating, but rather the reverse, if specific treatment does not promptly relieve or if it can not be waited for. The physician should merely advise the operation, not urge it. Gummata in the brain are generally of meningeal origin, and the symptoms may be due exclusively to a syphilitic affection of the meninges. In quite a large proportion of the cases of syphilitic cerebral lesions treated by operation the relief and cure obtained by the operation have proved permanent. The prophylactic value of such interventions can not be overestimated.

49. **Surgical Treatment of Peritonitis.**—Klink's article is based on 598 articles on this subject, the total number of cases on record now being 1,459, with 643 recoveries and 816 deaths. He tabulates the cases reported by various authors, with columns of recoveries and deaths. Lennander's statistics in 1904 were 283 operations of this kind, with 236 recoveries to only 57 deaths; in 1895 his statistics were 10 recoveries and 4 deaths, and in 1899, 2 recoveries and 4 deaths. Only two of the other surgeons listed have passed the one hundred mark, Sonnenburg with 58 recoveries and 55 deaths (1900) and von Beck with 54 recoveries and 46 deaths (1903). The proportion of cures has risen from 27 per cent. before 1898 to 59 per cent. The proportion of cures is 18 per cent. when the operation is done in the first three weeks in case of typhoid perforation. On suspicion of perforation, the surgeon should operate

at once, not waiting for the shock to pass over. The moribund and the decrepit aged should not be operated on. In 1,069 cases the peritonitis was the result of appendicitis. The proportion of cures was 35 per cent. (1888-1904), but in the 482 operations performed since 1900, 45 per cent. of the patients were cured. In 52 cases of peritonitis from gastrointestinal perforation, 27 per cent. of the patients recovered, and 50 per cent. in 32 cases in which the peritonitis had developed following some suppurative gynecologic affection, generally a pyosalpinx. In typhoid, perforation of the large intestine displays a tendency to encapsulation, not noted in case of perforation of the small intestine. The latter runs a rapidly fatal course unless arrested by operative intervention. There is no meteorism during the first twenty-four hours, unless pre-existent. It develops later and is an accessory sign of the functional obstruction of the intestine resulting from the peritonitis. If the latter remains circumscribed, the paralysis of the intestine may spontaneously subside. The laparotomy relieves the intestine, but the majority of the patients who died after the laparotomy did not succumb to the direct consequences of the peritonitis, but to the unrestrainable progress of the ileus. The perforations were multiple in about 10 per cent. of the cases on record. In 80 per cent. the perforation was located just above the ileocecal valve; in 12 per cent. in the colon, and in a few instances in the appendix. Peritonitis by contiguity can not be absolutely differentiated from perforation peritonitis, but it may heal spontaneously. Rupture of the typhoid spleen and of suppurating mesenterial glands must also be remembered in differential diagnosis. Peritonitis due to the action of the pneumococcus is generally cured by operative intervention. Forty out of 50 children operated on for this cause have recovered. All that is needed is evacuation of the abscess and extensive drainage. In children, the onset of the affection is as stormy as that of any peritonitis, but it soon passes into a chronic phase. The thick, creamy, greenish pus may perforate through the umbilicus. It may accumulate by the quart, but the large proportion of fibrin induces formation of adhesions, and they are responsible for the generally favorable outcome. The pus accumulates near the umbilicus, in the hypogastrium or iliac fossæ. The affection may last for weeks, but the child is doomed without surgical treatment. The condition is rare in adults and assumes more the aspect of ordinary peritonitis. Typhoid, appendicitis and tuberculous peritonitis must be excluded in the diagnosis.

50. **Roentgen Treatment of Leukemia and Pseudo-leukemia.**—Seventy articles on this subject have already been published in eight different countries since Pusey's and Senn's pioneer work in 1902 and 1903. Schirmer cites the details of each of the 72 cases on record of leukemia treated by Roentgen exposures. In nearly every instance, the general health was notably benefited. The spleen grew smaller and the leukemic composition of the blood became improved or the blood findings became normal. In some cases there was a transient disappearance of myelocytes. This freedom from symptoms, it has been found, is liable to last for several months. Recurrences are also amenable to the same treatment. Indications for prophylactic exposures during an interval free from morbid manifestations must be based on the blood findings at the time. Similar favorable results have been obtained in Banti's disease, and Dinkler has reported a case of idiopathic enlargement of the spleen which subsided under Roentgen exposures without recurrence to date. As the erythrocytes show a marked resistance to the exposures, no success need be anticipated in pernicious anemia, especially as Grawitz has recently directed the treatment of this affection into new routes by his assumption of causal intestinal autointoxication. (See these columns, page 638 of volume xliii.) The local action of the Roentgen rays has no influence on toxins in the circulation. Roentgen treatment of pseudoleukemia is older than that of leukemia, but not a single instance of failure has been reported to date. As Senn's name is connected with the first application of the *x*-rays to leukemia, so Pusey takes the lead in the cases of pseudoleukemia, his first publication having appeared in The Journal, Jan. 18, 1902, a year before Senn's. In every case known, the rays have caused the rapid involution of the glandular tumors. The enlarged glands subside more slowly than the enlarged spleen as a rule. On account of the multiple localizations, the exposures were generally more numerous and more intense than in the cases of leukemia, and by-effects were more frequently observed. Hard tubes mostly were used. Milchner and Mosse advise exposure of the peripheral portion of the bone marrow rather than the center, as more cells are accumulated at the periphery. Perthes covers the skin with a thin sheet of tin foil to divert any possible soft rays. Guerra enhances the activity of the rays by preliminary subcutaneous injection of methylene blue. Levy-Dorn recommends what he calls radial exposure, that is, to expose the focus on two or more sides, in order to insure the deeper penetration of the rays. A large proportion of the Roentgen energy is lost by the resistance of the tissues. He advocates increasing the distance to 30 cm., as the penetrating action of the rays under the skin does not diminish in the same proportion as their action on the external skin. He thinks that too abrupt resorption of pathologic masses is liable to be injurious. He has observed two cases in which retrogression of sarcomata was accompanied by conditions suggesting collapse, with intense sweating, etc. A larger number of "refractory" doses is borne much better. His method of partial radiation of the single glands and groups of glands seems logical. Heineke's researches, described in The Journal on page 86 of volume xliii, are cited by Schirmer as having established a scientific basis for all this empiric work. He regrets that so few of the cases have been followed systematically to date and the remote results published.

51. **Stab Wounds of Spinal Cord.**—Flatau has found 108 communications on this subject in the literature, and analyzes the findings in the numerous cases reported, as also in the experimental researches. He thus presents a composite picture of all that is known on the subject to date. The lesions induced by a stab or cutting wound of the spinal cord differ with the violence of the injury, whether splinters of bone or scraps of clothing were carried into the wound, and whether the marrow was cleanly incised or crushed, and whether there was much hemorrhage and inflammation. The communications on the reparatory processes generally harmonize with Stroebes' experiences. Regeneration of conducting fibers is not probable after a stab wound.

Deutsche medizinische Wochenschrift, Berlin and Leipsic.

52 (XXXI, No. 24.) *Treatment of the Morbidly Lean.—Ueber die Behandlung der Abmagerung. W. Ebstein.
53 *Action of Alcohol on Circulation auf den Blutkreislauf des Mensch
54 *Foreign Bodies in Esophagus. Erkrankungen der oberen Speisew G. Glücksmann.
55 *Ueber Lungentuberculose und Schwangerschaft, nach Beobachtungen im Hochgebirge (and pregnancy). O. Burckhardt.
56 Advances in Treatment of in der Behandlung der
57 *Tuberculöse Ohrerkrankun tions in Infants). Halke.
58 Ueber Metastasenbildung beim Adenocarcinom der Mäuse (*metastasic in mice*). J. W. Baeslack (Buffalo).

52. **Treatment of the Morbidly Lean.**—Ebstein groups the causes of morbid leanness as those accompanied by other morbid symptoms and those in which the individual grows thin without any other appreciable morbid manifestations. Long-continued intellectual work is one cause of morbid leanness. After removing the cause, treatment should be symptomatic, and many hints can be gained from the experiences in fattening animals for the market. Sheep and cattle can be kept fat for a long time on little food by keeping them from active exercise and protecting them against cold. Rest and warmth are, therefore, important factors in promoting the taking on of fat. Psychic measures are frequently valuable, especially in case of loss of appetite. A carefully regulated, rational utilization of the fat-sparing action of alcohol is also advisable, as well as administration of arsenic and regulation of the bowels. The main point in treatment, however, is the diet. Abrupt change of diet is not wise, but the more fat taken the better. In his experience with treatment of obesity he found that as the patients lost their fat their heart action became much improved. His experience has further shown that ingestion of carbohydrates causes deposits of fat in and around the heart, thus

hampering its action, while ingestion of fats is free from this danger. This coincides with what is observed in the hearts of pigs fattened on fats. He consequently orders fats for his patients instead of carbohydrates. Neurasthenic conditions demand change of environment and treatment in a special institution, therefore, is indispensable in such cases, with the application of individualized physical and psychic measures. The physician should be a model for the patient not only in what he says, but in what he does. Ebstein pays a high tribute to G. M. Beard, who invented the term neurasthenia, and remarks that his principles are the basis of almost later work in this line. In conclusion, Ebstein gives the daily bill of fare for a morbidly lean person in his private clinic. At 7 a. m. oatmeal porridge, into which butter has been stirred. At 8, milk or cocoa, with a buttered roll or piece of zwieback. At 9, bouillon, with egg or kefir and a slice of bread. At 12, a wineglass of port or madeira, with a few cakes. At 1:30 p. m., dinner, bouillon, with or without an egg stirred in it; fish or a little meat, with a change of light vegetables, or with potato, rice pudding, or boiled rice, green peas or beans, roast meat, jelly, and some nourishing flour pudding. At 4 p. m., milk or cocoa, with a roll or piece of zwieback. At 6, kefir or milk, and at 7:30, milk or gruel and bread, with a slice of cold meat or some warm hot meat. Butter should be taken freely at every meal, and the amounts of the different articles of food should be small at first and gradually increased, studying the patient's tastes and wishes.

53. **Action of Alcohol on Circulation.**—Kochmann's experiments on animals and on healthy and sick persons has demonstrated that alcohol raises the blood pressure. This is due to a vasoconstriction in the domain of the splanchnic nerve while there is vasodilatation in the peripheral circulation. These vasomotor changes increase the blood supply in the heart muscle and thus stimulate it to renewed activity.

54. **Foreign Bodies in the Esophagus.**—The full title of Glückmann's article is "Traumatic Affections of the Upper Alimentary Canal and Their Treatment." This title expresses the motive of his communication, which is to call attention to the extremely traumatic character of such an event as the swallowing of a foreign body, and the liability to infection with serious complications, even fatal septicemia. The physician must also bear in mind the possibility of infection from the instruments he uses in extraction of the foreign body. The patient usually locates the foreign body by pointing through his mouth when it is above the constrictors of the pharynx, while he points to his neck when it is located farther down. The soft, comparatively insensitive tonsil tissue seems to favor the penetration of sharp foreign bodies, such as needles or fishbones. If the patient in such a case locates the pain from the outside, pointing to the side of the neck near the larynx, it will be found that the foreign body has passed farther along or expelled by the vigorous reflex action of these parts, and that the pain is the result of the local damage inflicted. It frequently happens that a person with pharyngitis and reflex neuroses imagines that he has swallowed a foreign body. A scrap of crust scratches the irritated mucosa and he is convinced that it is a severe foreign-body lesion. Careful examination of mouth, pharynx and larynx, with digital exploration of the constrictor muscles of the pharyngeal region, are sufficient at first. No instrument should be used, but radiography will be found a great help, and also the esophagoscope and extractor with the dilating ball which are the features of his instrument, previously described and illustrated in The Journal, page 157 of volume xliii. He reports a number of cases treated on these principles. One patient coughed up a fishbone while being prepared by rest in bed, ice to the neck and morphin for tracheobronchoscopy, as the esophagoscopy had been fruitless.

55. **Tuberculosis Plus Pregnancy According to Experiences in a Mountain District.**—Burkhardt practices in Switzerland and his observation of 15 cases of pregnancy in tuberculous women has not confirmed the experience of others in regard to the deleterious influence of the state on the pulmonary affection. He found that the sojourn in the mountains induced a favorable turn in the tuberculosis, notwithstanding the existent pregnancy. Cases of progressive phthisis became arrested in the course of the pregnancy. Abortion had no curative action and in some cases proved directly injurious. Artificial abortion, therefore, should be restricted to cases of the most advanced phthisis or to those complicated by uncontrollable vomiting. During childbirth, the loss of blood and physical effort should be restricted to the minimum, possibly resorting to artificial delivery and using chloroform freely. The mother must refrain from nursing the child. The course of treatment in the mountain region should be continued for from four to six months after delivery, even in the mildest and most favorable cases, to forestall tardy disturbances. Infants thrive in the mountain climate. In classifying cases of tuberculosis he accepts Turban's classification as an advance, but still far from the ideal, as it does not afford a basis for prognosis. Besides the lung findings, the sputum, pulse, temperature, weight, height, general condition and heredity should all be considered in relation to the further course of the disease. He believes that a child may be born with congenital tuberculosis which, like syphilis, may remain latent for many years before showing signs of its presence. He urges others practicing in mountain districts to publish their experiences, and relates the details of about a dozen cases.

57. **Tuberculous Ear Affections in Infants.**—Haike is convinced that a tuberculous ear affection may develop in an infant and cause serious general disease without any noticeable local symptoms. Preysing found marked tuberculous lesions in the ear in only 2 out of 197 infant ears. The only other writers in the accessible literature who have discussed the subject are Schwabach, Rebbeling and Finkelstein. Haike has had occasion to observe 5 cases of tuberculous ear affections, the first symptoms noted from the fifth week to the seventh month of life, and which all terminated fatally in a few weeks or months, none surviving the ninth month. Four of the infants had phthisical mothers, and nothing was known of the mother of the fifth child. In every case the course of the affection could be traced from the mouth and throat through the tube into the ear—conclusive demonstration that the affection had been acquired by contact with the tuberculous mother. The evidence is all in favor of the assumption that the ear affection was primary, although some or all of the glands became involved later. Caseous degeneration was found in the mastoid process in every case. These findings teach the necessity for removal of infants from tuberculous environments.

Münchener medizinische Wochenschrift.

59 (LII. No. 21.) Agglutination of Paratyphoid Bacilli by Typhoid Serum.—Agglutinierende Wirkung des Serums von Typhuskranken auf Paratyphus-Bazillen, nebst Bemerkungen über makroskopische und mikroskopische Serodiagnostik. Korte and Steinberg.
60 Case of Probable Pernicious Anemia plus Leukemia.—Zur Leukanämiefrage. Kerschensteiner.
61 *Occupation in Therapeutics of Nervous Affections.—Bedeutung und Wert der Arbeitsbehandlung Nervenkranker. G. Geissler.
62 Adenoid Vegetations as Favoring Epidemic Cerebrospinal Meningitis.—Zur Verhütung der ep. Zerebrospinalmeningitis. O. Dornbluth.
63 *Sugar as Food for Diabetics.—Wurfelzucker als Nahrungsmittel für Diebetes. Oefele.
64 Self-Protection Against Venereal Disease.—Schutzmittel gegen Geschlechtskrankheiten. O. Grosse (Munich).
65 *Ueber eine neue lokale Behandlungsmethode des Furunkels und Karbunkels. A. Marcus.
66 *Protection for Vaccination Pustule.—Ueber Impfschutzverband. A. Groth.
67 Exhibitions of Hypnotism: Waking Suggestion.—Ist Wachsuggestion erlaubt? A. Riedel.

61. **Occupation in Treatment of Mental Affections.**—Geissler greets the introduction of systematic therapeutic occupation as an advance in the treatment of the mentally unsound. Its advantages are in the line of its psychic influence, but this is also its weak side, as so many fail to respond. It is, nevertheless, another valuable means at our disposal, and those who have introduced it should take courage, he says, and proceed to study further and to perfect the technic.

63. **Sugar as Food in Diabetes.**—Oefele has been cautiously testing the results of allowing loaf sugar to hundreds of his diabetic patients and tabulates the findings in a number of cases in which 35 gm. of sugar or more were taken daily. In 95 per cent. the glycosuria was improved; in 2.5 per cent. it remained stationary, and in 1.5 per cent. it increased. In 95

per cent. the improvement in the glycosuria was accompanied by great improvement in the general health and strength. This increased vigor after taking sugar harmonizes with the results observed in military circles. It is indispensable however, that the sugar must be taken apart from the albuminous meals, in water or coffee or the like, and that it should be followed by muscular exercise, accepting as an axiom, "No sugar without muscular exercise afterward, and no considerable muscular exercise without previous ingestion of sugar." He remarks, in conclusion, that ordinary sugar is better for diabetics than any kind of flour, as the starch of flour becomes transformed into diabetic sugar, while only half the molecule of saccharose produces dextrorotatory sugar.

65. **Electric Treatment of Furuncles and Carbuncles.**—Marcus suggests the empiric treatment of these lesions by allowing them to "ripen" possibly owes its efficacy to the local production or accumulation of antibodies. Unless there is some safe and certain means of destroying the cocci on the spot, this is the best way, he says, to treat a furuncle or a carbuncle. During the last year he has evolved a local treatment which, he says, has accomplished wonders in his hands. In the presuppuration stage he seeks for the most sensitive follicle and introduces a depilation needle connected with the negative pole of an electric current of 1 or 2 milliamperes. He then increases the current to 10 milliamperes, stirring the needle around to enlarge the hole. The nascent hydrogen pours out, bringing with it scraps of tissue and cocci. After from one to three minutes he removes the needle, cleans the parts, and reintroduces the needle as before, but connected with the positive pole of the current, increasing to 10 milliamperes as before. Ozone is then generated, which he calls the strongest disinfectant known, and the lesion is soon thoroughly disinfected. After two or three minutes the current is again reversed so that the hydrogen generated will again rinse out and wash away the débris. By this means the cocci are killed *in situ* and the further development of the furuncle is arrested. If pus has already formed it is mechanically removed as cautiously as possible to aid the above procedure, which is repeated twice a day. All pressure on the parts must be avoided, especially from the collar when the lesion is on the neck. It is remarkable how promptly and perfectly even large carbuncles heal under this electric treatment. Marcus has been applying this treatment for a year with increasing satisfaction.

66. **Vaccination Shields.**—Groth is convinced that many serious complications might be averted by using a simple covering for the pustule which can not get out of place like the ordinary shields. He uses a shield made of cotton, which fits over the arm and shoulder like a sleeve to the elbow, with a band from the top passing around the body under the other arm. He asserts that the state in enforcing compulsory vaccination should manage it so as to avert complications.

Therapie der Gegenwart, Berlin.

Last indexed page 361.

68 (XLVI, No. 3.) *F[illegible] auf die Nieren (action [illegible]
69 Die Technik der [illegible]sive congestion). R. Grunbaum.
70 Zur Behandlung der gonorrhoischen Erkrankungen. F. Kornfeld.
71 Results to date with Roentgen Treatment of Leukemia and Pseudo-Leukemia.—Kritisches Referat. De la Camp.
72 Allgemeine Grundsätze der Prophylaxe und Therapie der Magenkrankheiten (of stomach diseases). G. Klemperer.
73 Easy Reduction of Incarcerated Hernia and Ethyl Chlorid Spray and Vaselin.—Zur Repositionstechnik der eingeklemmten Hernien. H. Fischer.

68. **Action of Salicylates on Kidneys.**—Quenstedt's experience and research have shown that on administration of salicylic acid in the ordinary moderate doses signs of irritation appear after a short time and last as long as it is being taken. If salicylic treatment is suspended, these symptoms disappear after a time, but as soon as the drug is given again the signs of irritation reappear. The salicylic nephritis disappears quickly on suspension of the salicylic treatment, leaving no bad results, but when the salicylic acid is continued in small doses recovery is not complete. Loeb and Knecht arrive at somewhat different conclusions. They noted merely tokens of absolutely insignificant irritation from the salicylates. Knecht [illegible] suggests that this difference may be due to differences in diet or to climatic causes. The appearance of signs of irritation after use of salicylic acid is observed, however, in various localities, so that it can be attributed only to the drug. It does not seem necessary to lose the benefits of salicylic medication on account of the slight nephritis noted after its use. Large doses should be given without hesitation if the severity of the case demands. All investigations show that salicylic acid leaves no permanent effects on the kidneys. In acute cases indicating the salicylates, they are indispensable, but in chronic cases they are of too little value to be continued very long.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

HUMAN PHYSIOLOGY. Prepared with Special Reference to Students of Medicine. By J. H. Raymond, A.M., M.D., Third Edition, Thoroughly Revised. 444 Illustrations, Some in Colors, and 4 Full-page Lithographic Plates. Cloth. Pp. 687. Price, $3.50 net. Philadelphia: W. B. Saunders & Co. 1905.

TREATMENT OF FRACTURES, with Notes on a Few Common Dislocations. By C. L. Scudder, M.D. Fifth Edition, Thoroughly Revised, with 739 Illustrations. Polished Buckram. Pp. 563. Price, $5.00 net. Philadelphia: W. B. Saunders & Co. 1905.

THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON, Centenary 1805-1905. Written at the request of the President and Council by N. Moore, M.D., F.R.C.P., and S. Paget, F.R.C.S. Cloth. Pp. 337. Aberdeen University Press, Limited 1905.

DISEASES OF THE KIDNEYS AND OF THE SPLEEN; HEMORRHAGIC DISEASE. By H. Senator and M. Litten, edited, with additions, by J. B. Herrick. Cloth. Pp. 915. Price, $5.00 net. Philadelphia: W. B. Saunders & Co. 1905.

TEXT-BOOK ON THE PRACTICE OF MEDICINE. For Students and Practitioners. By J. M. French, A.M., M.D., Second Revised Edition. 61 Illustrations. Cloth. Pp. 780. Price, $4.00 net. New York: William Wood & Co.

DIRECTORY OF INSTITUTIONS AND SOCIETIES DEALING WITH TUBERCULOSIS in the United States and Canada. By L. Brandt. Cloth. Pp. 270. Charity Organization Society of the City of New York. 1904.

DIETETICS FOR NURSES. By J. Friedenwald, M.D., and J. Ruhräh, M.D. Cloth. Pp. 363. Price, $1.50 net. Philadelphia: W. B. Saunders & Co. 1905.

New Patents.

Patents, recently granted, of interest to physicians:

792698	Fumigating candle, John F. Cunningham, Springfield, Mo.
792711	Artificial limb, Edward Koeber, Chicago.
793004	[illegible] Frank H. May, Birmingham, Ala.
792918	[illegible] machine, Charles A. Ohlendorf and [illegible]
792637	[illegible], Pau[illegible]
793351	Massage appliance, Herbert [illegible] Y.
793061	Mattress and accessories for [illegible] Londonderry, Ireland.
793428	Ambulance cot or stretcher, George R. Edgley, Cincinnati.
793125	Physicians' adjustable chair, Victor A. Fagerstrom, Rockford, Ill.
793517	Sterilizer, John S. Forbes, [illegible]
793436	Earpiece or accoustic device, [illegible]elphia.
793582	Sterilizing cabinet, Jam[illegible] Ill.
793527	Massage apparatus, Lo[illegible] England.
793595	Folding display-box for [illegible] Le, Conshohocken, Pa.
793099	Syringe, Julius B. Sapp, Cleveland, Ohio.
793975	Plaster, Wm. H. Albach, Mount Gilead, Ohio.
794096	Syringe, Ella M. Gray, Des Moines, Iowa.
794033	Atomizer, Edward E. Menges, New Haven, Conn.
794387	Vaporizer, Edmund W. Ballentine, Chicago.
794160	Surgical appliance, Andrew Breslin and J. Lees, Summit-hill, Pa.
794161	Medical battery electrode, Kittie L. V. Curry, Chicago.
794233	Suppositorial bougie, Samuel L. Kistler, Los Angeles, Cal.
794641	*Inhaler, Alfred H. Ramey, Aurora, Ill.*
794256	Device for relief of club or flat feet, Wm. M. Scholl, Chicago.
794208	Electrothermal bath apparatus, Frank W. Weeks, San Antonio, Texas.
794771	Formaldehyde candle, Aleck Bauer and B. K. Hollister, Chicago.
794918	Pneumatic ophthalmic chart-cabinet, Louis O. Bisang, San Francisco.
794782	Stopper-holder for water bags, Albert C. Coe, Orange, Conn.
794788	Shield and support for x-ray tubes, Levitt E. Custer, Dayton, and D. H. Allen, Miamisburg, Ohio.
795212	Massage apparatus, George W. Fitz, Boston.
795213	Massage apparatus, George W. Fitz, Boston.
794707	Mercury pump, Stanwood E. Flichtner, Englewood, N. J.
794978	Invalids' bed, Ernest A. Hall, Vancouver, Canada.
795130	*Truss, John J. Horn, Philadelphia.*
795056	Injector for medical or like purposes, Selly Noah, Nuremburg, Germany.
794962	Massaging implement, Harry F. Waite, New York.
[illegible]	Medicine receptacle, Robert B. Mimmack, Rochester, N. Y.